



Printed for W. Taylor in Paternoster-Row,

L

(Beside)

Not only
Judge
full of
vice

- I. Confession of
- II. Of the
- Judgment
- III. Of the
- IV. Of the
- strating

D

Printed
and B

LOGIC:

OR, THE

Art of Thinking.

CONTAINING

(Besides the COMMON RULES)

MANY

New Observations,

Not only of great Use in forming an Exactness of Judgment, in the speculative Sciences; but also full of fine Reflections, for the common Service of Life.

IN FOUR PARTS.

- I. Consisting of Reflections upon the Ideas, or first Operation of the Mind.
 - II. Of the Reflections Men have made upon their Judgments.
 - III. Of Reasoning.
 - IV. Of Method; or the clearest Manner of demonstrating any Truth.
-

Done from the New *French* Edition.

By Mr. OZELL.

L O N D O N:

Printed for WILLIAM TAYLOR, at the Ship and Black-Swan, in Pater-noster-row. MDCCXV

1607/2216.



Sir

M

S



fixed
such I
and o
Depar
leave
done,



To the Right Honourable

Sir JOSEPH FEKTL,

MASTER of the ROLLS.

S I R,



ADDRESSES of this kind being seldom made without Leave first had and obtained of the proposed Patron, it may perhaps surprize You to see your Name here prefixed without any previous Intimation of any such Design. But, Sir, Distance from Town, and other Accidents, having occasioned this Departure from the usual Forms, I must now leave it to Your good Nature to pardon that done, which your great Spirit wou'd have for-

The DEDICATION.

*bid the doing of, for fear of a Recital of Things which, however true in themselves, are always distasteful to those who had rather * Prodesse quam Conspici, do Good than hear of it.*

The Author of an excellent Poem called Corona Civica, says to my Lord Chancellor Cowper some Years ago.

J E K Y L L, with rival Skill and lawful
Pride,
Your Course pursues, staunch to the
honest Side.

Sir, You are now, that great Man's Second in Place, tho' in Ability second to none: But a Quality far beyond all, and which seems peculiar to Yourself among the whole Profession, or the World is mightily mistaken, is your disinterestedness, even to the Refusal of many a just Fee. Instead of congratulating You upon Your new Promotion, I congratulate my Countrymen's Felicity, in seeing him, who with such clean Hands frequented the Bar, now transplanted to the Bench, and this fine Prece, fine Precio, without begging or bribing for Preferment, as another great Luminary of the

* Late Lord Somers's Motto.



Law,

THE DEDICATION.

Law, Sir Edward Cook, was wont with great Satisfaction to say he came by his Offices.

The Book I present you with, is so full of fine Reflections for the common Use of Life, and so differently handled from the Scholastical Manner, that it has been every where well received, and translated into all Languages.

It was compos'd by the famous Mr. Nicole, one of the Society of the Messieurs de Port Royal, those eminent Sticklers for Jansenism, and revis'd and improv'd by the no less famous M. Arnauld. As it is built on Cartesian Principles, we find it sometimes dissenting from Gassendus and others who differ from Descartes. The Authors likewise being rigid Casuists, no wonder they fall foul on Montagne, for which they have been reprehended by some considerable Writers, particularly La Bruyere.

But what is most observable, and with which I shall conclude, is, that being accused by the Jesuits for Hereticks, the Authors, to make their Court to the Pope, wrote very injuriously against the Protestants, to shew there was no Intelligence between them and the Protestants in France. Now as in their Writings against the Jesuits, who were seconded by the Pope, they vented several Things that seemed derogatory to the Pope's absolute Authority, and

main-

The DEDICATION.

maintained some Principles in common with Protestants, several learned French Writers of that Persuasion made use of, and retorted upon the Jesuits, many of the Passages inserted against them in this very Book. This gave Occasion to the Authors of this Logic, in the Edition of 1683, to add some Remarks to justify and clear those Passages from favouring the Protestant Cause. They likewise threw in some things to endeavour to prove by Reason the Doctrine of Transubstantiation. But as nothing can be more inconsistent than Reason and Transubstantiation, I thought the English Protestant Reader needed no Warning against the Danger of such Arguments, and so I left them as I found them. I am,

S I R,

Your most Obedient

And most Faithful Servant,



John Ozell.

A D V E R.

The T
they
of th
AC
P
verfale.
r. Ampl
56. 28.
76. 8. v
downmen
faneftræ
r. form.
1. Hic e
imp r. u
deny r. t
14. miri
9. occip
r. Tanti
r. læditur
riffimi.
cinatus r
speaking
thing.
mentation
205. 31.
wrong up
rum r. F
r. adored
37. from
they fafte
Nature.
Rhetoric
as it r. be
verfy r. C
Comets
r. made.
wou'd req
339. 10.
7. to voic
spacious r
by r. judg
7. wou'd
362. 37.
Joys r. To
down bel
381. 8. ot
Unites r.
r. conceiv
the Propof
as from E
that Pro
upon as P
&c. 41.
r. Terms.
pare. 42
tion enla
or r. to

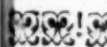
ADVERTISEMENT.

The Translator not having seen the Sheets of this New Edition 'till they were all wrought off, the Reader is desired to correct the Errors of the Press, especially these that follow.

PAGE 2. line 16. For *where* read *whereas*. p. 5. 21. *Variety* r. *Va-*
nity. 10. 8. not at all r. not all. 10. 36. *Conversation* r. *Con-*
version. 12. 15. *Baraco* r. *Baroco*. 13. 17. *Universali* r. *Uni-*
versale. 24. 33. *the* r. *that*. 33. 1. *the* r. *their*. 39. 1. *Amplification*
r. Amplification. 44. 34. *a Thought* r. *Thought*. 50. 37. *form* r. *from*.
56. 28. *Universal* r. *Univocal*. 58. 30. *them* r. *then*. 70. 27. *is* r. *in*.
76. 8. *vocator* r. *vocatur*. 83. 29. *praised* r. *practised*. 87. 28. *En-*
dowments r. *Enjoyments*. 89. 30. *this word* r. *his own*. 91. 24. *quo si*
fenestæ r. *quasi fenestæ*. 93. 9. *Language* r. *Languages*. 99. 3. *from*
r. form. 105. 19. not more r. much more. 115. 15. *here* r. *more*. 118.
1. *Hic ego noc.* r. *His ego nec*. 119. 19. *abjicio* r. *objicio*. 120. 21.
εἶπ r. *ὑπερ*. 126. 4. *Principles* r. *Participles*. 128. 2. to judge or to
deny r. to affirm or to deny. 137. 21. *Ar. At.* 139. 13. or r. of. 141.
14. *miri* r. *mibi*. 146. 9. *his* r. *is*. 147. 25. *more* r. *more fully*. 155.
9. *occipisti* r. *occidisti*. 156. 14. *Casuals* r. *Causals*. 157. 25. *Tantis*
r. Tanti es. 158. 12. to be r. be. 160. 4. *unita* r. *unica*. 163. 6. *lædatur*
r. læditur. 163. 9. *Wise Men* r. *Wise Man*. 166. 17. *clarissimi* r. *char-*
issimi. 171. 22. after place add *here*. 172. 10. *his* r. *bis*. 178. 2. *di-*
cinatus r. *decimatis*. 178. 6. *placeto* r. *placeo*. 179. 2. *speaking* r.
speaking of. 188. 26. *is in the* r. *is the*. 189. 34. of the thing r. the
thing. 196. 17. *design'd* r. *defined*. 199. 17. *Augmentation* r. *Argu-*
mentation. 200. 2. *indentify* r. *identify*. 202. 25. *that is* r. *that it is*.
205. 21. of a Matter r. of Matter. 209. 3. *arguing upon* r. *arguing*
wrong upon. 245. 13. *according* r. *according to*. 260. 16. *Frisefmo-*
rum r. *Frisefomorum*. 260. 29. *Darapt* r. *Darapti*. 262. 37. *adorn'd*
r. adored. 280. 27. *deter* r. *desert*. 282. 7. *are none* r. *are one*. 286.
37. *from the Matter* r. *from Matter*. 291. 26. *living fasten'd* r. *living*
they fasten'd. 294. 38. *Charity* r. *Chastity*. 297. 31. *The Nature* r.
Nature. 297. 35. alter the words in general of, add the Precepts of
Rhetoric: We find, says he that. 300. 7. *tho'* r. *that*. 308. 34. *before*
as it r. *before it*. 311. 20. *no Matter* r. *not Matter*. 313. 19. *Contro-*
versy r. *Contrariety*. 315. 38. after *Eclipses*, add, *they also happen without*
Comets and Eclipses. 326. 29. *designing* r. *defining*. 328. 15. *gave*
r. made. 329. 18. after of our, add, *Discourse*. But because this *D. sign*
wou'd require. 332. 8. *be very* r. *be the very*. 335. 24. *Thus* r. *Thus as*.
339. 10. *complained* r. *complain*. 345. 38. *humidu* r. *humidus*. 346.
7. to void r. to avoid. 349. 11. *conceiving* r. *conceiving things*. 349. 29.
spacious r. *specious*. 350. 36. *as good as a* r. *as good a*. 352. 16. *judge*
by r. judge rashly. 354. 11. *with* r. *in*. 355. 2. *tho'* r. *they are*. 356.
7. *wou'd* r. *shou'd*. 357. 8. *Diferrence* r. *Deference*. 357. 23. of r. by.
362. 37. to void r. to avoid. 366. 4. at the end r. as the end. 367. 28.
Foys r. *Toys*. 380. 3. after the Vase, add, the other which is long r. hangs
down below the bottom of the Vase. For the Water pour'd into the Vase.
381. 8. other Motions r. that Motion. 390. 28. often r. in. 394. 25.
Unites r. *Unit*. 401. 4. *that may* r. *that they may*. 404. 28. *convinced*
r. conceived. 408. 11. *they have only* r. *they only have*. 410. 11. *that*
the Propositions be look'd upon as drawn from a bare consideration of Ideas,
as from Principles that have no need of Proof but of Explanation, &c. r.
that Propositions drawn from a bare consideration of Ideas, be look'd
upon as Principles that have no need of Proof, but at most of explanation,
&c. 412. 15. *Isofoeles* r. *Isofceles*. 412. 27. 4th r. 47th. 418. 2. *Forms*
r. Terms. 418. 12. *Proportions* r. *Propositions*. 421. 8. *compute* r. *com-*
pare. 423. 27. *it may* r. *I may*. 428. 24. after upheld r. and by Addi-
tion enlarged, at length grows up. 430. 31. *Canker* r. *Cancer*. 433. 27.
or r. to



C



T H

The seco

Obje

The fir

Opera

Chap. i

Chap.

Chap.

Chap.

Chap.

tion

Abfin

Chap.

saliry

Chap.

Speci

Chap.

or Pa

Chap.

of th

T H E
CONTENTS.

P A R T I.

| | |
|---|--------|
| T H E First Discourse shewing the Design of this new Logic. | Pag. 1 |
| The second Discourse, containing an Answer to the principal Objections which have been made against this Logic. | 16 |
| The first Part, containing Reflections upon the Ideas, or first Operation of the Mind, which is called Conception. | 32 |
| Chap. i. Of Ideas according to their Nature and Origin. | 33 |
| Chap. ii. Of Ideas consider'd according to their Objects. | 42 |
| Chap. iii. Of Aristotle's ten Categories. | 46 |
| Chap. iv. Of Ideas of things, and Ideas of Signs. | 49 |
| Chap. v. Of Ideas consider'd according to their Composition or Simplicity: Wherein the Manner of knowing by Abstraction or Precision is treated of. | 52 |
| Chap. vi. Of Ideas considered according to their Universality, Particularity, and Singularity. | 56 |
| Chap. vii. Of the five Sorts of Universal Ideas, Genus, Species, Difference, Propriety, Accident. | 59 |
| Chap. viii. Of Complex Terms, and of their Universality or Particularity. | 66 |
| Chap. ix. Of the Clearness and Distinction of Ideas, and of their Obscurity and Confusion. | 72 |
| U | Chap. |

The C O N T E N T S.

| | |
|--|---------|
| Chap. x. <i>Some Examples of confus'd and obscure Ideas drawn from Ethics.</i> | Pag. 81 |
| Chap. xi. <i>Of another Cause of Confusion in our Thoughts and Discourse; which is, that we affix our Ideas to Words.</i> | 89 |
| Chap. xii. <i>Of the Remedy of the Confusion which arises in our Thoughts and Discourse from the Confusion of Words: Wherein is laid down the Necessity and Usefulness of defining the Words we make use of, and the Difference between the Definition of Things, and the Definition of Names.</i> | 93 |
| Chap. xiii. <i>Useful Observations touching the Definition of Names.</i> | 98 |
| Chap. xiv. <i>Of another sort of Definition of Names, to denote what they signify in common use.</i> | 102 |
| Chap. xv. <i>Of the Ideas which the Mind adds to those that are precisely signified by the Words.</i> | 109 |



P A R T II.

THE second Part of Logic; containing the Reflections Men have made upon their Judgments. 114

| | |
|--|------|
| Chap. i. <i>Of Words with relation to Propositions.</i> | ibid |
| Chap. ii. <i>Of the Verb.</i> | 121 |
| Chap. iii. <i>What a Proposition is, and of the four Sorts of Propositions.</i> | 127 |
| Chap. iv. <i>Of the Opposition between Propositions that have the same Subject and the same Attribute.</i> | 131 |
| Chap. v. <i>Of Simple and Compounded Propositions. That there are simple ones that seem compounded, and are not so, and which may be called Complex. Of those that are complex in the Subject or in the Attribute.</i> | 134 |

Chap.

The C O N T E N T S.

| | | |
|---|--|--|
| Ideas g. 81 oughts as to 89 arises tion of fulness erence tion of 93 tion of 98 nes, to 102 se that 109 | Chap. vi. Of the Nature of incident Propositions, which make a Part of complex Propositions. Pag. 138 | |
| | Chap. vii. Of falsity there may be in complex Terms, and in incident Propositions. 142 | |
| | Chap. viii. Of Propositions Complex as to Affirmation or Negation ; and of a Species of those sorts of Propositions which the Philosophers call Modal. 147 | |
| | Chap. ix. Of the various sorts of compounded Propositions. 150 | |
| | Chap. x. Of Propositions compounded in the Sense. 159 | |
| | Chap. xi. Observations to distinguish, in some Propositions expressed after a less usual Manner, which is the Subject and which is the Attribute. 168 | |
| | Chap. xii. Of confused Subjects equivalent to two Subjects. 171 | |
| | Chap. xiii. Other Observations to discover whether Propositions are Universal or Particular. 175 | |
| | Chap. xiv. Of those Propositions wherein the Name of the Thing is given to the Sign. 183 | |
| | Chap. xv. Of two sorts of Propositions which are of great Use in the Sciences, Division and Definition. And first of Division. 190 | |
| | Chap. xvi. Of that Definition which is called Definition Of things. 194 | |
| lections 114 | Chap. xvii. Of the Conversion of Propositions ; wherein the Nature of the Affirmation and Negation, upon which this Conversion depends, is more thorowly treated of. And first of the Nature of the Affirmation. 199 | |
| ibid 121 | Chap. xviii. Of the Conversion of Affirmative Propositions. 202 | |
| Sorts of 127 | Chap. xix. Of the Nature of Negative Propositions. 205 | |
| ns that 131 | Chap. xx. Of the Conversion of Negative Propositions. 207 | |
| That are not that are 134 Chap. | | |

The C O N T E N T S



P A R T III.

| O F Argumentation, or Reasoning. | Pag. 20 |
|---|---------|
| Chap. i. Of the Nature of Reasoning, and of the different Kinds that there may be of it. | 20 |
| Chap. ii. Division of Syllogisms into Simple and Conjunctive, and of the Simple into Incomplex and Complex. | 21 |
| Chap. iii. General Rules for Incomplex Simple Syllogisms | 21 |
| Chap. iv. Of the Figures and Modes of Syllogisms in general. That there can be but Four Figures. | 24 |
| Chap. v. Rules, Modes, and Foundations of the First Figure. | 24 |
| Chap. vi. Rules, Modes, and Foundations of the Second Figure. | 25 |
| Chap. vii. Rules, Modes, and Foundations of the Third Figure. | 25 |
| Chap. viii. Of the Modes of the Second Figure. | 25 |
| Chap. ix. Of complex Syllogisms, and how they may be reduced into common Syllogisms, and judged of by the same Rules. | 26 |
| Chap. x. A general Principle, by which, without any Recursion to the Figures and the Modes, we may judge of the Goodness or Viciousness of any Syllogism. | 26 |
| Chap. xi. Application of this general Principle to several Syllogisms which seem to be intricate. | 27 |
| Chap. xii. Of Conjunctive Syllogisms. | 27 |
| Chap. xiii. Of Syllogisms whose Conclusion is conditional. | 28 |
| Chap. xiv. Of Enthymemes, and of Enthymematick Sentences. | 28 |

Chap. Propo
Chap.
Chap. 1
ments
Chap. 1
Logic,
Chap. 1
which
Chap. 1
in civi
OF Met
Chap. i.
That th
than w
things
The Ad
Chap. ii.
thesis.
Chap. iii
larly th
Chap. iv.
going R
nitions.
Chap. v.
understo
and Th
Chap. vi
Proposit

The C O N T E N T S.

| | |
|--|-----|
| Chap. xv. Of Syllogisms compound: d of more than three Propositions. | 289 |
| Chap. xvi. Of Dilemma's. | 292 |
| Chap. xvii. Of Places, or the Method of finding Arguments : How little us ful this Method is. | 295 |
| Chap. xviii. Division of Topics into those of Grammar, of Logic, and of Metaphysics. | 300 |
| Chap. xix. Of the several Manners of wrong Reasoning, which are call'd Sophisms. | 307 |
| Chap. xx. Of the false Reasonings that Men are guilty of in civil Life, and in common Discourse. | 329 |

P A R T. IV.

| | |
|--|-----|
| OF Method. | 365 |
| Chap. i. Of Knowledge. That there is such a Thing. That the Knowledge of things by the Mind is more certain than what we know by our Senses. That there are some things which the humane Mind is uncapable of knowing The Advantage of this necessary Ignorance. | 366 |
| Chap. ii. Of the two Sorts of Method, Analysis and Synthesis. An Example of Analysis. | 376 |
| Chap. iii. Of the Method of Composition, and particularly that which is observ'd by the Geometricians. | 385 |
| Chap. iv. A more particular Explication of the foregoing Rules ; and first, of those that relate to Definitions. | 387 |
| Chap. v. That the Geometricians seem not to have rightly understood the Difference between the Definitions of Words and Things. | 392 |
| Chap. vi. Of the Rules in reference to Axioms, that is, Propositions clear and self-evident, | 396 |
| Chap. | |

The CONTENTS.

| | |
|--|-----|
| Chap. vii. <i>Certain Axioms of Moment, that may serve for Principles of great Truths.</i> | 402 |
| Chap. viii. <i>Of Rules relating to Demonstration.</i> | 409 |
| Chap. ix. <i>Of some Errors usually occurring in the Method of the Geometricians.</i> | 408 |
| Chap. x. <i>An Answer to what the Geometricians alledge for themselves.</i> | 411 |
| Chap. xi. <i>The Method of Sciences reduced to eight principal Rules.</i> | 417 |
| Chap. xii. <i>Of what we know by Faith, whether Humane or Divine.</i> | 417 |
| Chap. xiii. <i>Certain Rules for the Guidance of Reason in the Belief of Events that depend upon Humane Faith.</i> | 421 |
| Chap. xiv. <i>An Application of the preceding Rules to the Belief of Miracles.</i> | 427 |
| Chap. xv. <i>Other Remarks upon the same Subject of the Belief of Events.</i> | 432 |
| Chap. xvi. <i>Of the Judgments we ought to make of future Accidents.</i> | 436 |



L

A

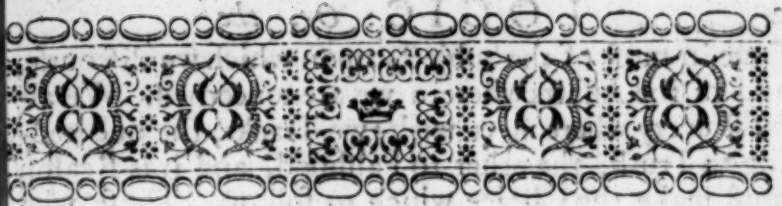
D

Shew

N

ife. It
o disting

serv
 402
 405
 Method
 408
 alledge
 41
 princ
 417
 humane
 417
 reason in
 th. 422
 to the
 427
 of the
 432
 of futur
 43



LOGIC:

OR, THE

ART OF THINKING.



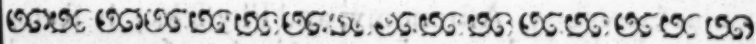
Thomas Lynch's Books

THE FIRST

*Copied as per
Dublin January 2nd 1820.*

DISCOURSE,

Shewing the Design of this NEW LOGIC.



Nothing is more desirable than Good Sense and Justness of Thought in discerning Truth from Falshood. Every other Quality of the Mind is of limited Advantage; but Exactness of Reason is of universal Use, and serviceable in all the Parts and Offices of

life. It is not in the Sciences only that it is difficult to distinguish between Truth and Error, but it is the

B

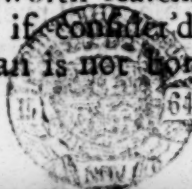
same

same in most of the Subjects upon which we discourse, and in the Affairs wherein we are concerned. We almost every where meet with two Tracks, the one leading to Truth, the other to Falshood, and it is Reason must make the Choice which to follow. Those who chuse Right, are those who are endued with a Justness of Thought; those who chuse Wrong, are those who have a Falseness of Thought; and this is the first and most essential Difference between the Qualities of Mens Understandings.

From hence it appears, that we ought to apply ourselves chiefly to the forming our Judgment, and making it as exact as possible; and this is the End to which we ought to direct the greatest Part of our Studies. Reason is commonly employed as an Instrument to acquire the Sciences; where^{as} on the contrary, the Sciences ought to be made use of as an Instrument to give Reason its Perfection; Justness of Thought being infinitely more valuable than all the speculative Knowledge attainable by the Help of the truest and most solid Sciences: Which ought to be a Caution to all Men of Prudence, to dive into those Studies no farther than may be necessary to that End, and to make them the Exercise, not the whole Employment of their Minds.

If this is not the main View wherein every one applies to the Study of those speculative Sciences, such as Geometry, Astronomy, and Physicks; it seems to us to be little better than a vain Amusement, and not much more estimable than the Ignorance of all those Things: which at least has this Advantage, that it is less painful, and does not puff Men up with that empty Vanity which often arises from a Skill in that fruitless and barren Knowledge.

Not only those Sciences have hidden Corners and deep Recesses not worth searching into; but they are totally useless, if consider'd in themselves and for themselves. Man is not born to spend his Time



in me
portio
tions
too sh
upon
Equit
Actio
these
cise h

Th
is exc
Exact
with
ing T
Hand
gumer
are c
who a
have
Truth
braced
victio
Opini
not so
undec
upon
and w
ever
Disco
of wh
He wh
he wh
in a H
they j

By
what
gull t
Fools

in

in measuring Lines, in examining the mutual Proportion of Angles, in considering the various Motions of Matter: His Mind is too great, his Life too short, his Time too precious, to be thrown away upon such petty Objects: His Business is to be Just, Equitable, Judicious, in all his Words, in all his Actions, and in all the Affairs he transacts; and in these Duties he ought particularly to form and exercise himself.

This Study is so much the more necessary, as it is exceeding rare to meet with one endued with an Exactness of Judgment. The World is throng'd with false Thinkers, who are incapable of discerning Truth; who take every Thing by the wrong Handle; who acquiesce to the most insufficient Arguments, and wou'd impose the same upon others; who are carried away with the slightest Appearances; who are always in Excess and in Extremities; who have no Hold-fast to keep themselves firm to the Truths they do know, because they at first embraced them rather by Chance than by clear Conviction; or who, on the contrary, adhere to their Opinions with so much Obstinacy, that they will not so much as give ear to the Reasons which might undeceive them; who boldly give their Decisions upon Things in which they are utterly ignorant, and which, perhaps, neither they nor any Body else ever understood; who make no Difference between Discourse and Discourse, or who judge of the Truth of what is said by the Tone of Voice it is said in: He who speaks with Ease and Gravity is in the right; he who explains himself less readily, or seems to be in a Heat, is in the wrong. These are all the Rules they judge by.

By this Means there is no Absurdity so gross but what finds some Promoters. Whoever desires to gull the World, may be sure of meeting with Fools ready to be gull'd: And the most ridiculous

Foppery is always proportionate to the Capacity of some Class of Fools or other. When we see so many infatuated with the Nonsense of judicial Astrology, and that some mighty grave People can handle that Subject in the most serious Manner, we ought to wonder at nothing. There is a certain Constellation in the Firmament, which some Folks have been pleas'd to call a Balance, and which resembles a Balance just as much as it does a Wind-mill: The Balance is the Emblem of Justice; *Ergo*, say they, those that are born under this Constellation must be just and equitable. There are three other Signs in the *Zodiac*, the one call'd a Ram, the other a Bull, and the third a Goat; which they might as properly have call'd an Elephant, a Crocodile and a Rhinoceros: The Ram, the Bull, and the Goat, are beasts that chew the Cud: Therefore, they that take Physick when the Moon is in any of these Constellations, shall be in Danger of casting it up again. As extravagant as these Reasons are, those that spread them abroad do not want Disciples to believe them.

This Falseness of Thought is the Cause not only of these Errors that creep into the Sciences, but also of most of the Faults that are committed in Society, such as unjust Quarrels, ill-grounded Law-suits, rash Advice, and ill-concerted Undertakings. There are few of these that do not flow from some Error and Defect of Judgment: So that there is no Defect which it more concerns us to amend.

But this Amendment is not more desirable than it is difficult; because it very much depends upon the Measure of Understanding, which we bring with us into the World. Common Sense is not so common a Thing as it is generally thought to be. There are a vast Number of heavy stupid Creatures which are not to be reformed by teaching them the Truth, but by keeping them to such Things as are within

with
med
ceive
of t
ceed
Mind
judge
obscu
Truth
so li
what
to all
rathe
them
they
they
false,
wards
in th
speak
V
much
hesita
and d
them
to giv
of Ign
ficult
of Me
forma
I am
The
Learn
abund
certain
wou'd
take a
all cer

ART of THINKING. 3

within their reach, and by hindering them from meddling at all with what they are not able to conceive. It is nevertheless certain, that very many of the false Judgments given by Men do not proceed from this Principle, but from Precipitancy of Mind, and Want of Attention, which makes them judge rashly in what they know but confusedly and obscurely. The little real Love Men have for Truth is the Reason that they generally give themselves so little Trouble to distinguish what is True from what is False. They afford Entrance into their Souls to all Manner of Discourses and Maxims, and chuse rather to take them for granted, than to examine them: If they themselves do not understand them, they are willing to believe that others do; and thus they crowd their Memory with Numbers of Things false, obscure, and crudely conceived; and afterwards argue upon those Principles, without reflecting in the least upon what they think or what they speak.

~~Vanity~~ ^{Vanity} and Presumption contributes also very much to this Fault. Men fancy it shameful to hesitate or be at a loss; and will rather speak and determine at a Venture, than acknowledge themselves to be not informed in any Point enough to give their Opinion in it. We are all of us full of Ignorance and Error; and yet it is the most difficult Thing in the World to draw from the Mouths of Men this Confession, which is so just and so conformable to their natural Condition; *I am mistaken; I am ignorant in this Matter.*

There are others, on the contrary, who having Learning enough to be informed that there are abundance of Things in themselves obscure and uncertain; and who out of another Sort of Vanity, would seem not to be liable to the vulgar Credulity, take a Pride in averring, that there is nothing at all certain: By this Means they free themselves

from the Pains of examining into any Thing, and upon this false Principle doubt the most constant Truths, and Religion itself. This Pyrrhonism is another Extravagance of the Mind of Man; and tho' it seems the direct Opposite of the Temerity of those that believe and are positive in every Thing, does in effect flow from the same Spring, which is Want of Attention. For as the one will not take the Pains requisite to the Discovery of Errors; so the other will not look into Truth with the Care necessary to conceive its Evidence. The most superficial Insight will serve to make the one believe any Manner of Falshoods; and is to the other sufficient Cause for doubting the most certain Truths: but in both, it is one and the same Want of Application that produces such different Effects.

True Reason places every Thing in its true Rank: She makes us doubt what is dubious, reject what is false, and acknowledge ingenuously what is evident, without being at all staggered by the vain Arguments of the Pyrrhonians, which do not destroy the rational Assurance we have of Things certain, not even in their own Minds. No Man could ever seriously doubt that there is an Earth, a Sun, and a Moon, or that the Whole is bigger than its Part. Men may indeed force their Lips to say they doubt such a Thing, because Men may lye; but they can never say it with their Hearts. So that Pyrrhonism is not a Sect of People that are themselves convinced of what they teach, but a Sect of Lyars. And accordingly, they frequently contradict themselves in giving an Account of their own Opinions, their Hearts not agreeing with their Tongues; an Instance of which we find in *Montagne*, who endeavoured to revive that Sect in the last Age: For after having said that the Academics were different from the Pyrrhonians, in that the Academics confessed that some Things indeed were more

pro

probab
wou'd
in th
nian
his o
Thing
by W
it esc
itself,
Bu
did
which
that
therel
even i
them
very
Unce
Faith
to the
morse
Passio
Th
Mind
to an
the o
table)
of bei
it is
and th
but b
ments
than
what
to di
as we
not f
chanc

probable than others, (which the Pyrrhonians would never allow) he declares for the Pyrrhonians in these Terms: *The Opinion (says he) of the Pyrrhonians is better, and much more probable.* So that from his own Words it appears, he thought that some Things are more probable than others: And it was not by Way of Quibble that he used this Word probable; it escaped him unawares, and was dictated by Nature itself, which no assumed Opinion can ever stifle

But this Fault would not be so mischievous if it did not also extend of course to those Things which are not so obvious to Sense: These Men that take Pleasure in doubting of every Thing, do thereby hinder their Mind from applying itself, even in Religion, to such Thoughts as might bring them Conviction; or, at least, they apply to them very imperfectly: So that they fall into a willing Uncertainty with respect to the most sacred Points of Faith; because this State of Darkeness is agreeable to them, and seems adapted to the appeasing of Remorse of Conscience, and to the gratifying their Passions without controul.

Thus as the above mentioned Irregularities of the Mind, which appear so opposite (the one leading to an easy Belief of what is obscure and uncertain, and the other to a Doubt of what is clear and undisputable) have yet the same Principle, namely, Neglect of being sufficiently attentive to discern the Truth; it is visible they must also have the same Remedy, and that we can no way guard ourselves therefrom, but by giving an exact Attention in all our Judgments and Thoughts. We need nothing more than this to avoid all Manner of Mistakes. For what the Academics averred, that it were impossible to discover Truth, unless we had the Marks of it, as we could never find a run-a-way Slave if we had not some Tokens to know him by if we should chance to meet him, is no better than a vain Subtilty.

tilety. As there is no Occasion for any other Marks to distinguish Light from Darkneſs, but the Light itſelf, which cannot be hid ; ſo there is no need of any other Tokens to know Truth by, beſides the Brightneſs which ſurrounds it, and which ſubdues and perſuades the Mind, in ſpite of any Oppoſition it can make : So that all the Arguments of theſe Philoſophers can no more hinder the Soul from yielding to Truth, when it is vigorously attacked by it, than it can prevent the Eyes from ſeeing, when they are wide open, and ſtruck upon by the Light of the Sun.

But becauſe the Mind is often impoſed upon by falſe Appearances, for want of due Attention, and that there are many Things not attainable but by a long and painful Diſquiſition; it is moſt certainly very neceſſary to have Rules ſettled how we ſhould conduct ourſelves to make the Search of Truth both more eaſie and more certain : Nor is it at all impoſſible to lay down ſuch Rules. For ſince Men ſometimes are deceived in their Judgments, and ſometimes are not; ſince at one time they argue in a Right, and at another in a wrong Manner; and that after having argued wrong, they are capable of perceiving their Miſtake; they may, by looking back upon their Thoughts, obſerve what Method they followed when they argued well, and what was the Cauſe of their Error when they happened to be deceived; and ſo form Maxims from thoſe Reflections, how to avoid the like Miſtakes for the future.

This is properly what the Philoſophers undertake, and what they boaſt themſelves able to perform to ſo high a Degree of Excellence. If we will take their Word for it, that Part of Learning which they invented with this Deſign, and which they call Logic, will induce us with a Light able to drive away all the Clouds that darken our Underſtanding: They correct all the Errors of our Thoughts,

Thoughts, and give us such admirable Rules as will infallibly guide us to Truth; and which at the same time are so absolutely necessary, that without them it is utterly impossible to discover it with any Certainty. These are the Praises they bestow upon their own Precepts. But if we reflect never so little upon what Experience has shewn us of the Use those Philosophers have put them to, as well in Logic, as in all the other Parts of Philosophy, we shall have great Reason to distrust the Truth of their Premises.

However, because it would be unjust to reject what is really useful in Logic, upon account of the ill Purposes it may be employed to; and that it is not likely so many Great Men, who earnestly apply'd themselves to the Rules of Argumentation, have done so without finding any Thing in it that may be of solid Advantage; and lastly, because Custom has in a manner introduced a Necessity of having, at least, a slight Knowledge of Logic; we thought it would contribute somewhat to the Publick Benefit, to extract from them what might prove most serviceable to form the Judgment. To do which was properly the Design of this Work, adding some new Reflections which occurred as we wrote, and which make up the greatest and perhaps the most useful Part of the Whole.

For the ordinary Philosophers seem to have intended little or nothing more than to lay down the Rules of good and bad Reasoning. Now tho' it cannot be said, that these Rules are useless, since they will sometimes serve to discover the Faults of certain perplexed Arguments, and to range our Thoughts after the most convincing Method, yet this Use must not be thought to extend very far, most of our Mistakes not arising from our being blinded by false Consequences, but from our suffering ourselves to be prejudiced with wrong Judgments.

ments from whence false Consequences are drawn
 * This is what the former Writers of Logic have neglected to remedy; to do which is the chief Design of the new Reflections to be found all thro' this Treatise.

It must however be acknowledged, that the Reflections which we call New, because they are new in the common Logics, are not all the Author's own; and that he borrowed some of them from the Writings of a celebrated Philosopher of the present Age, who is as perspicuous and clear, as most others are obscure and confused. Some also are taken out of a little Manuscript not yet printed, composed by the late Monsieur *Pascal*, intitled, *Of the Geometrical Mind*; and this is what we say in the Ninth Chapter of the First Part of the Difference between the Definition of Name, and the Definition of Thing, and the five Rules handled in the fourth Part, where they are much more largely treated of than they are in that Manuscript.

As for what we took out of the common Book of Logic, the Method we followed in doing it was this:

First, we brought in all that was really useful in the others; such as the Rules of Figures, the Divisions of Terms and Ideas, with some Observations upon Propositions. There were some other Things which we thought almost insignificant; namely, the Categories and Topics: but because they were short, easie and common, we even resolved to keep them in, giving at the same Time a Caution what Value we set upon them, that they may not be far exceeded more necessary than they are.

We were more doubtful what Course to take in certain Matters of great Difficulty and little Benefit; to wit, the Conversion of Propositions, the Demonstration of the Rules of Figures. But at length we resolved not to omit them, even the

Difficult
 deed
 the K
 say w
 yet w
 Truth
 is for
 selves
 As
 light
 which
 of eas
 ments
 blame
 Mind
 be no
 respect
 do no
 at an
 lastic,
 and n
 which
 Propo
 on the
 have
 People
 by tha
 of sev
 ill Co
 The
 streng
 Mathe
 difficu
 speaki
 Thou
 and t
 learn'

Difficulty not being altogether useleſs: For tho' indeed where ſuch a Difficulty does not terminate in the Knowledge of any Truth whatſoever, we may ſay with Reason, *Stultum eſt difficiles habere nugæ*; yet when it does lead in the End to ſomewhat of Truth, it is not to be equally avoided; becauſe there is ſome Advantage to be gained by exerciſing ourſelves in the Solution of knotty Queſtions.

As there are ſome Stomachs which can diſteſt only ſlight and delicate Food, ſo there are ſome Minds * which can app'y themſelves to the Study only of eaſie Truths, and thoſe adorned with the Ornaments of Eloquence. This Delicacy is extreamly blameable, and is indeed a real Weakneſs. The Mind ſhou'd be inured to find out Truth, let her be never ſo much concealed or diſguiſed, and to reſpect her under whatever Form ſhe appears. If we do not conquer this Diſguſt, which is eaſily taken at any Thing that ſeems a little Subtile or Scholaſtic, we ſhall imperceptibly contract our Genius, and make it incapable of conceiving thoſe Things which are not known but by a long Chain of Propoſitions. So that when a Truth depends upon three or four Principles which it is neceſſary to have before us all at once, we are in a Maze of Perplexity, we think the Attempt too difficult, and by that Means deprive ourſelves of the Knowledge of ſeveral uſeful Things; which is a Fault of very ill Conſequence.

The Capacity of the Mind is enlarged and ſtrengthened by Uſe; which is the Effect of the Mathematics in particular, and in general of all difficult Studies, ſuch as thoſe Points we are now ſpeaking of. For they give a certain Expanſion of Thought; break the Mind to intenſe Application, and teaches us to hold faſt to what we have already learn'd.

Theſe

These are the Reasons that induced us to keep in those knotty Points, and even to handle them with as much Subtily as any other Treatise of Logic. Those who are displeased at them, may pass them over; as we have taken care to tell them at the Heads of the Chapters themselves, that they may have no Reason to complain, and that if they do read them, they may do it voluntarily.

Neither did we think it necessary to give heed to the Averſion and Diſtaſt ſome Gentlemen have taken to certain artificial Words which have been formed for the more eaſie Retention of the various Ways of Reasoning, as if they were Magical Terms, and who often make themselves wonderful merry with *Barāco* and *Baraliſton*, which they fancy ſtink confoundly of Pedantry: We thought theſe Jeſts *X* more Pedantic than the Words themſelves: Sound Reason and Good Senſe do not allow us to call that ridiculous, which in itſelf is not ſo. Now there is nothing ridiculous in thoſe Terms, provided they be not cry'd up as Myſteries; and as they were only formed for the Help of the Memory, it was never intended they ſhould be brought into common Diſcourſe; or that, for inſtance, any one ſhould tell his Antagoniſt before-hand, that he will now ply him with an Argument in *Bocardo*, or *Felapton*, which indeed would be very ridiculous.

This Reproach of Pedantry is ſometimes very ill applied, and thoſe that beſtow it upon others often fall into it themſelves; while they are ſo doing. Pedantry is a Vice of the Mind, and not of the Profeſſion; and there are Pedants in all Habits, and in all Conditions. To make a mighty rout about trivial Matters, to ſputter Greek and Latin Right or wrong, to be in a violent Rage about the Order of the Aſtick Months, the Garments of the *Macedonians*, and other Diſputes of the like Importance; to ſeal from an Author and abuſe him at the ſame

Time;

Time; to tear a Man's Character to pieces for not being of the same Opinion about a Passage in *Suetonius*, or the Etymology of a Word, as if our Religion and Liberty lay at stake; to accuse a Man of being the Disturber of the Publick Peace for not paying Veneration enough to *Tully*, as *Julius Scaliger* did *Erasmus*; to stand up for the Reputation of an ancient Philosopher, as if he were our own Father: All this we may justly call Pedantry: But there is none at all in understanding or explaining a few artificial Words ingeniously, invented only for the Ease of the Memory; provided we do it with the Precautions before enjoined.

All that remains, is to give a Reason for omitting a great Number of Questions which are to be found in the common Logics, such as those that are handled in the Prolegomena's, the *Universale à parte rei*, the Relations, and several of the like: And as to this, it would almost be enough to say, that they rather belong to Metaphysics than to Logic. But yet it is true, that this was not the chief Cause of our leaving them out. For when we thought any Matter might be of Service to the forming of the Judgment, we never scrupled to insert it, to whatever Science it might belong. The Disposition of the various Parts of our Knowledge is as free as the ranging of Letters in a Printing-House: Every one has a Right to throw them into such different Classes as he thinks will best suit his own Occasions: yet this ought to be done in that Manner which is most according to Nature: If we find any Matter is likely to promote the End we propose to ourselves, we shall make use of it as a Part of our Subject: So that in this Treatise, the Reader will find many Things relating to Physics and Morality, and almost as much Metaphysics as it is necessary to know; and yet we do not reckon that we have at all borrowed from any other Art. All that is helpful to Logic, belongs

longs to it: And nothing can be more ridiculous than the assiduous Pains some Authors have been at (such as *Ramus* and the *Ramists*, tho' else Men of good Learning) to set Bounds to the Jurisdiction of each Science, and to see that they do not make Inroads into one anothers Provinces, with as much care as if they were marking out the Frontiers of Kingdoms, or settling the Jurisdiction of Parliaments.

What induced us wholly to omit those School Questions, was not only their being both difficult and useless; we have inserted some of the same Character: But because having those ill Qualities we thought also we might make bold to leave them out without giving any Offence, upon account of their being very little esteemed in the World.

For there is a great Difference to be made in the useless Questions, wherewith the Books of Philosophy are filled. Some of them are sufficiently despised by the very Men that handle them; and others, on the Contrary, are mightily valued and authorized, and are admitted into the Works of Authors, who in other Regards are very worthy of Esteem.

It seems to be a Duty which we owe to those common and celebrated Opinions, let them be ever so false, not to be ignorant of what is said of them. This Civility, or rather Justice, is due, not to Falsity, which deserves none, but to those Persons who are prepossessed in their Favour; it being in some Manner inexcusable to reject, without examination, Things for which they have a Value. So that we do not seem to have a Right to despise those Questions, till we have purchased that Right by learning them.

But as to the former we are more at Liberty; and those Logical ones which we thought fit to leave out are of that Kind: They have this Convenience

that the
who ha
Credit
body,
sale a
Intention
our om
from be
they we
Philoso

It m
we hav
strict R
Things
brought
so with
very use
the Rul
a Scienc
of the M
the sam
and De
the sam
Thes

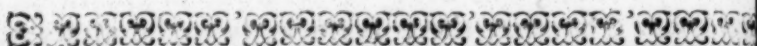
Logic.
few wil
it is of
Pains t
Howeve
Attenti
as will
Judgme
of it;
Distem
ing the
be no
of mod
or eigh
tha

that they are so far from being valuable to those who have not studied them, that they are but in little Credit even among those who teach them. No body, thank God, cares what becomes of the *Universale à parte rei*, the Being of Reason, or the *Second Intentions*: So that there is no body to be angry at our omitting them; and indeed, they are so far from being proper to be put into our Language, that they wou'd rather have help'd to decry the School-Philosophy, than to win it any Esteem.

It may not be amiss to advertise the Reader, that we have made bold to deviate a little from the strict Rules of Method, having inserted several Things in the Fourth Part which might have been brought into the Second and Third. But we did so with Design, because we judged it wou'd be very useful to have in one uninterrupted Discourse all the Rules necessary to be observed in order to bring a Science to its Perfection: Which is the great Business of the Method taught in the Fourth Part. And it is for the same Reason that we deferred speaking of Axoms and Demonstrations, that they might be handled in the same Place.

These are the main Views wherein we wrote this Logic. Perhaps, notwithstanding all our Care, very few will profit by it, or be sensible of the Advantage it is of to them; because Men do but seldom take the Pains to make use of the Precepts they have learn'd. However, we hope that those who read it with some Attention, will, at least, get such a Tincture from it, as will render them more exact and solid in their Judgments, tho' they themselves may not take notice of it; as there are certain Medicines which cure Distempers only by increasing the Vigour and fortifying the Parts. Be it as it will, we are certain it can be no great Hindrance to any body; since Persons of moderate Learning may read and study it in seven or eight Days: And it will be very strange, if in so much

much Variety of Matter, every one does not meet with something to make Amends for the Time he spends upon it.



THE SECOND DISCOURSE.

Containing an ANSWER to the principal Objections which have been made against this LOGIC.

* ALL that are resolved to impart their Works to the Publick View, must be contented to have as many Judges as Readers: Neither ought they to think this Condition unjust or hard; for if they are really disinterested, they must give up all their Property in them, at the same time that they make them publick, and look upon them afterwards with the same Indifference as upon the Works of a Stranger. The only Right they can lawfully reserve to themselves, is that of Correcting what shall be found defective, wherein the various Censures made of Books are extremely serviceable: For they are always useful when they are Just, and even when Unjust they do no harm, because we are free to take no Notice of them.

Yet Prudence does often make it requisite to comply even with those Opinions which we do not think well grounded; because if they do not convince us, that what is found fault with is really bad, they at least shew us, that it is not suited to the Capacity of those who disapprove of it. Now it is undoubtedly better, when it may be done without falling into a greater Inconveniency, to make Choice of so just a Medium, as to satisfy Per-

sons

not meet more narrow Conceptions, since we must not expect to have only Men of Learning and Genius for our Readers,

For this Reason it were to be wished, that the first Editions of Books were looked upon only as rough Essays, which the Authors propose to the examination of Men of Letters; and that afterwards, with the Help of the different Lights they have received, they should set to Work afresh to bring their Compositions to all the Perfections that their Capacity can raise them to.

This Conduct we should gladly have followed in the second Edition of our LOGIC, if we had heard more of what the World said of the First. We have done however all that lies in our Power, and have added, struck out, and corrected, several things, by the Advice of those who were so kind as to let us know what they disliked.

And first, for the Language, we almost everywhere followed the Opinion of two Persons, who gave themselves the Trouble to shew us some faults that were crept in thro' Inadvertency, and certain Expressions which they did not think well taken. And we made bold to dissent from their advice only, when, upon Consultation with others, we found the Opinions divided; in which case we thought ourselves at Liberty to be guided by our own Sentiments.

As to Things, the Reader will find more Additions than either Alterations or Retrenchments; because we were not so thoroughly informed of what was objected to, with reference to them. However, it is true we heard of some Objections that were made, in general, against the Book, which we did not think it would be worth while to dwell long upon, because we were persuaded, that the same Persons who made them, would be easily satisfied

tified if they were told the Motives we had View when we wrote the Things they blame. For which reason it will not be amiss to answer here the chief of those Objections.

Some were offended at the Title of the *Art of Thinking*; instead of which, they would have put, *The Art of Reasoning justly*. But they are surpris'd to consider, that as it is the Design of Logic to give Rules for all the Actions of the Mind, as well for simple Ideas, as for Judgment and Argumentation, no other Word would have compris'd all those different Actions, and the Word *Thought* most certainly includes them all; for simple Ideas are Thoughts. Judgments are Thoughts, and Arguments are Thoughts. It is true, we might call it *The Art of Thinking well*; but that Addition was not necessary, being sufficiently implied by the Word *Art*, which signifies, of itself, a Method of doing any Thing well, as *Aristotle* himself observes. And therefore Authors have thought it sufficient to say *The Art of Painting, The Art of Numbers*; because it is suppos'd there is no need of an Art for ill Painting, or for wrong casting Accounts.

There is an Objection of much more Consequence, made against the multitude of Things we have drawn from other Sciences in the Composition of this Logic; and because it attacks the very Design of the Whole, and so gives us an Opportunity of explaining it fully, it will be necessary to examine this with the more Care. To what purpose, say they, is all this Motley of Rhetoric, Metaphysic, and Geometry? When we think only to meet with Precepts of Logic, are we of a sudden carry'd into the highest Sciences before the Author is inform'd whether we know any Thing of them or not. Ought he not rather to have suppos'd, that if we were already perfect in those Sciences, we should have no need of

Logic?

Logic? And had he not better have given it us in plain and simple Manner, explaining the Rules by Examples taken from common Things, than to embarrass them with so many Matters as quite choak them up?

But they who argue in this Manner, have not sufficiently considered, that the greatest Fault a Book can be guilty of, is the not being read, since it can be useful only to those who read it: And that consequently whatever contributes to gain a Book Readers, contributes also to make it useful. *
Now it is certain, had we wrote according to their Method, and compiled a dry Logic, with the ordinary Examples of Animal and Horse; let it have been never so exact and regular, it would only have augmented the Number of those which the World is overstock'd with already, and which no body takes into. Whereas, it is this Collection of different Things that has caused this to be so much called for, and which makes the Reading of it less profitable than the others.

But yet it was not the principal Aim we had in making this Mixture to draw in Readers, and making it more diverting than the common Logics: We are apt to believe we have followed the most natural and most advantageous Method of handling this Art, in applying a Remedy to an Inconvenience, which render'd the Study of it almost wholly useless.

Experience evinces, that of a Thousand young Men that learn Logic, hardly Ten know any thing of the Matter, in six Months after they have finished their Course. Now the true Cause of this frequent Forgetfulness or Negligence seems to be, that tho' all the Matters treated of in Logic are in themselves very abstracted, and remote from common Use, they are further explained by Examples that are neither diverting, nor ever likely to be talked

talked of in Conversation. So that the Mind which applies itself to them with Disgust, retains them with Difficulty, and easily loses all the Ideas it had conceived of them, because they are never renewed by Practice,

Besides, as these common Examples do not sufficiently give them to understand, that this Art is applicable to any Thing useful, they accustom themselves to confine Logic to Logic only, without extending it any further; whereas it was invented to serve as an Instrument to the other Sciences: so that having never seen its true Use, they make none at all of it, and are even glad to discharge themselves of it, as of a mean unprofitable Knowledge.

We therefore believed the truest Remedy for this Inconvenience was, not to separate Logic, so much as it has hitherto been, from the rest of the Sciences, for whose Service it is intended, but to join them to solid Instructions by means of Examples in such a manner, that the Rules and the Practice may be seen at one View; to the intent, that Men may learn to judge of those Sciences by means of Logic, and to retain Logic by means of those Sciences.

So that this Diversity is so far from choaking up the Precepts, that nothing can contribute more to the making of them clearly understood, and better retain'd; because of themselves they are too subtle to stamp any Impression upon the Mind, unless they are illustrated by something more sensible and pleasant.

To make this Mixture the more useful, we have not borrowed Examples from those Sciences at random; but we have pick'd out the most important Points, and such as might best serve to furnish Rules and Principles of finding out the Truth in the

other Mat-
ter of.

For Exam-
ple, I con-
sider'd, I
find it in
the bellifim
imagined.

These Expre-
ssions are ge-
nerally su-
perfluous, so that
it is to be
making, and
the made
of for
Orator

and in this
did those
note on
it shewi
the same
de of it,
in bad.

very r
undance
ing to
ance is a
ing it d
be reck
of the
which
the Mi
Writing
of the C

Malign
use, rea
ch are
a Diffic

oth

other Matters which we could not properly take Notice of.

For Example, as to what concerns Rhetoric, we consider'd, that the Assistance which can be drawn from it in finding out of Thoughts, Expressions, and Embellishments, is much less considerable than is imagin'd. The Wit provides Thoughts enow, Use makes Expressions; and Figures and Ornaments are generally superabundant.

So that the main Advantage we reap from Rhetoric, is to avoid certain ill Habits of Writing and Speaking, and especially an artificial Declamatory made up of false Thoughts, of Hyperboles, and of forced Figures; which is the greatest Vice an Orator can be guilty of. Now perhaps you will find in this Logic as much Instruction to know and avoid those Faults, as in the Books which are wrote on purpose; the last Chapter of the first shewing the Nature of the figurative Style, the same time teaches the Use that ought to be made of it, and the true Rule to know good Figures from bad. That which treats of Topics in general may very much help to prune away the superfluity and abundance of common Thoughts. The Article relating to the vicious Reasoning into which Eloquence is apt to lead those who study it, does, by setting it down for a Maxim, that Nothing ought to be reckon'd Beautiful which is False, propose one of the most important Rules of true Rhetoric, which may be of very great Assistance in forming the Mind to a simple, natural, and judicious Way of Writing. Lastly, what is said in the same Chapter of the Care that ought to be taken not to stir up the Malignity of those to whom we direct our Discourse, teaches to avoid a vast Number of Faults, which are so much the more dangerous, as they are a Difficulty perceived.

As

As for Ethics (or Morality) the principal Definitions of our Subject would not give us leave to say very much of it. However, I believe it will be allowed that what we have set down in the Chapter of false Ideas of *Goods and Evils* in the first Part, and that of the fallacious Reasoning Men are guilty of in the Conduct of Civil Life, is of very wide Extension and may help us to discover a very great Part of the Mistakes we are apt to fall into.

There is nothing more considerable in Metaphysics, than the Origin of our Ideas; the Separation of Spiritual Ideas from Corporeal Images; the Distinction of the Soul from the Body, and the Proof of its Immortality, grounded upon that Distinction. And this you will find pretty largely handled in the first and fourth Parts.

In different Places you may find even the greater Part of the general Principles of Physics, which may very easily be collected in your Mind; and Light enough may be gathered from what we have said of Ponderosity, sensible Qualities, of the Actions of the Senses, of attractive Faculties, of occult Virtues, of substantial Forms, to efface a great Number of false Ideas, which the Prejudices of Youth have left upon the Mind.

Not that there will be no Necessity of studying these Things more carefully in the Books which expressly treat of them; but we consider'd, that there were several Persons who not intending themselves for Divinity (wherein it is necessary to be perfect Masters of the School-Philosophy, which is, as it were, in a Tongue) may be contented with a more general Notion of those Sciences. Now tho' they may not find in this Book all that they ought to learn of it, yet we may say with Truth, they will find almost all that they need to retain.

What is objected, that there are some of these Examples which are not enough adapted to the Capacity

Begin

beginners, is true only with Reference to the Geometrical Examples. For, as to the rest, they may be understood by all that have any Genius, tho' they never learn'd any Thing of Philosophy: And perhaps, they may be even more intelligible to those who are yet untainted with any Prejudices, than to those whose Heads are filled with the Maxims of the common Philosophy.

For the Geometrical Examples, it is true, they will not be understood by every Body; but this is no great Inconvenience: For we have only brought them to those Chapters where Geometry is expressly and fully hand'ed, which for that Reason may easily be glossed over, or in Things sufficiently plain of themselves, or so cleared by other Examples, that they are in no Want of Geometrical Illustrations.

Besides, if you observe the Places where these Examples are brought in, you will be convinced that it had been a hard Matter to have found out others so proper; there being only this Science which affords us clear Ideas and incontestible Propositions.

For Example, speaking of reciprocal Proprieties, we have said that they were *Rectangled Triangles*; that the Square of the Hypothenuse is equal to the Square of the Sides: This is plain and certain to who all understand it; and those who do not may take it for granted, and will full as well conceive the Thing to which that Example is applied.

But if we had made Use of what is generally brought upon this Occasion, namely, the Risibility which they is a Propriety of Man; we had advanced a Thing both very obscure and very disputable: For if by the Word Risibility is meant the Power of making a certain Grimace which is produced by laughing, we cannot see why a Beast might not be taught to make the same Grimace; and perhaps there may be some that do so. If this Word includes not only the Change of Face made in laughing, but also the Thought which

which accompanies and occasions it, and that so
 Ridibility is understood the Power of laughing with
 Thought; then all humane Actions wou'd become
 reciprocal Proprieties in that respect, there being none
 but what are proper to Man alone, if they be annexed
 to Thought. Thus, it may as well be said, that
 is a Propriety of Man to Walk, to Eat, to Drink
 because Man alone Walks, Eats, and Drinks with
 Thought. If it be thus taken, we shall never want
 Examples of Proprieties: But even then they wou'd
 not be satisfactory to those who ascribe Thought to
 Beasts, and who consequently might also allow them
 to laugh with Thought. Whereas the Example we
 have made use of can never be controverted or con-
 vild at.

In like manner, we designed to shew in another
 Place, that there are some corporeal Things which we
 conceive in a spiritual Manner, and without forming
 to ourselves the Image of them: To confirm this, we
 have quoted the Example of a Figure of a Thousand
 Angles, which we conceive clearly in our Minds, though
 we cannot form to ourselves any distinct Image that
 can represent its Proprieties. And by the way, we
 said that one of the Proprieties of that Figure is, that
 all its Angles were equal to 1996 Right Angles. This Philo-
 sopher is visible, that this Example very well proves what we
 intended to make out in that Place.

It remains only to clear ourselves from a more in-
 vidious Complaint that some Persons have made against
 us, that we have brought in *Aristotle* for Examples of
 defective Definitions and false Reasonings; which they
 think is done out of a secret Intention to depreciate
 the Philosopher.

But they wou'd never have pronounced so severe a
 Sentence against us, had they considered the true Rule
 which ought to be observed in citing Examples of
 Faults; and which we followed in quoting *Aristotle*.

First, Experience shews, that most of those Mistakes which are generally instanced are of little Use, and are soon forgot, because they are form'd at Pleasure, and are so gross and obvious, that it is thought impossible ever to fall into them. It is therefore much the surer way, in order to fix what is said of such Faults in the Memory, and make Men more cautious to avoid them, to chuse real Examples taken from some noted Author, whose Reputation may make them be the more upon their Guard against those Mistakes, which they find even the greatest Men may be guilty of.

Besides, as it ought to be every one's Endeavour to make what he writes as useful as possible, he should chuse such Examples of Faults as it imports us not to be ignorant of; for it would not be worth while to load our Memory with all the Dreams of *Flud*, *Vanhelmont*, and *Paracelsus*. It is therefore better to draw our Examples from famous Authors, whose Writings we are in some sort obliged to be Masters of, even to their very Faults.

Now all this is exactly to be found in *Aristotle*. For nothing can make us more careful to avoid a Fault, than to see that so great a Genius could miscarry in it. And this Philosophy is become so celebrated, by means of the vast Numbers of ingenious Men who have embraced it, that there is a Necessity of knowing even the Errors he could be guilty of. Thus, as we thought it would be very useful for the Readers of this Book to learn by the way divers Articles of that Philosophy, and that nevertheless there can be no Advantage in being deceived, we gave an Account of them to make them known, and at the same time shewed the Faults we observed in them.

It is not therefore to depreciate *Aristotle*, but to do him Honour as much as possibly we could in Things wherein we differ from him, that we took those Examples out of his Books: And besides it is visible,

that those Matters which we have corrected him in, are of very little Importance, and do not touch the Foundation of his Philosophy, which it was by no means our Design to attack.

If we make no mention of those Things wherein *Aristotle* has excelled in several of his Books, the Reason was, because the Series of the Discourse would not admit of our so doing; but if an Occasion had offered, we had done it gladly, and we should not have fail'd to give him the just Applause he deserves. For it is certain *Aristotle* had a vast and extensive Genius, and in every Subject he handles discovers a great Number of Consequences: For which Reason he has been very successful in what he has said of the Passions in the Second Book of his Rhetorick.

There are also many fine Things in his Books of Politicks and Ethicks; in his Problems, and in his History of Animals: And let his Analytics be thought never so confused, it must however be confessed, that almost all we know of the Rules of Logic is borrow'd from thence. So that indeed there is no Author from whom we have taken more Things in this Logic than from *Aristotle*; the main Body of the Precepts being his.

The least perfect of his Works seems to be his Physics, as it was also that which was longest condemned and prohibited by the Church; as a learned Man has proved in a Book on purpose. But the chief Fault even of that is not that it is false, but on the contrary that it is too true, and teaches us nothing but Things which it is impossible not to know. For who can doubt, that all Things consist of Matter and a certain Form of Matter? Who can doubt, that in order to Matter's acquiring a new Manner and a new Form, it must before have it not; that is to say, it must have the Privation of it? Who, lastly, can doubt those other Metaphysical Principles, that every thing depends upon Form; that Matter alone does no-

thing;

thing; that there are Place, Motion, Qualities, Faculties? But after we have learnt all these Things, we do not seem to have learnt any thing new, nor are we e'er the more capable of accounting for any of the Effects of Nature.

If there are any that aver that we ought not in any wise to declare our Dissent from *Aristotle*, it would be easy to prove their Assertion unreasonable.

For if we owe a Deference to any Philosophers, it can be only for two Reasons; either upon Account of Truth which they maintained, or upon Account of the Authority and Number of their Abettors.

Upon Account of Truth, they ought always to be respected when they are in the right; but Truth can never require us to respect Falshood in any Man upon Earth.

As for the universal Consent of Men in approving of a Philosopher, it certainly deserves some Respect, and it would be imprudent to run counter to it, without great Precaution; and the Reason is, that by attacking what is universally received, we are suspected of Presumption, in thinking our selves wiser than the rest of Mankind.

But when the World is divided in their Opinions of an Author, and that there are Persons of Reputation on both Sides, we are not then obliged to that Reservedness, and we may freely declare what we approve, and what we disapprove in those Books which are in Dispute among the Men of Letters; for in that Case we do not oppose our Sentiments against those of the Author and his Party, but only range ourselves on the Side of their Antagonists.

This properly is the State *Aristotle's* Philosophy now stands in. As it has undergone various Fortunes, having at one time been universally rejected, and at another universally approved; it is placed now in a Medium between those two Extreams; it is defended by several learned Men, and attacked by others of no

less Reputation: Books are daily written with Freedom on both Sides of the Question in *France, Flanders, England, Germany, Holland*: The Conversation of *Paris* is as much divided as the printed Treatises, and no Body is offended at your declaring against him. The most celebrated Professors no longer bind themselves down to Slavery of blindly Receiving whatever they find in his Books. Some of his Opinions are even generally banished; for what Physician will now affirm that the Nerves come from the Heart, as *Aristotle* believed; since Anatomy clearly shows that they take their Rise from the Brain, which made *St. Augustin* say, *Qui ex puncto cerebri, & quasi centro sensus omnes quinarum distributione diffudit*. And where is that Philosopher who will be so obstinate as to affirm, that the Swiftneſs of ponderous Things increases in Proportion to their Weight; when any Man may confute this Opinion of *Aristotle's*, by letting fall from a high Place two Things never so unequal in Weight, wherein nevertheless he will find but very little Inequality of Swiftneſs?

All violent Conditions are generally but of short Duration, and all Extreame are violent. 'Tis hard Measure to condemn all *Aristotle's* Opinions in general, (as has been formerly done) and it is as hard to force Men to subscribe blindly to every Thing he says, and to make him the Standard of the Truth of Philosophical Opinions; which afterwards seem'd to be undertaken. Men cannot long endure such Tyranny; but by degrees they will recover the Possession of their natural and reasonable Freedom, which consists in approving what we think true, and rejecting what we think false.

Reason does not refuse to submit to Authority in those Sciences, which, treating of Things that are above Reason, must follow another Light, which can be only divine Authority. But in humane Sciences, which profess the Support of Reason only, no body

can

can bear to be forced to submit to Authority, contrary to Reason.

This is the Rule we have followed in speaking of the Opinion of Philosophers, both ancient and modern. We have in both looked only for the Truth, without espousing the Sentiments of either in general, and without declaring ourselves an Enemy to one more than to the other.

So that all the Conclusion that can be made, when we reject any Opinion either of *Aristotle* or another, is, that we are not of that Author's Opinion upon that Occasion; but it can never be inferred from thence, that we are not of their Opinion in other Points, much less that we have any Adversion to them, or any Design of lessening their Reputation. We believe this way of proceeding will be approved of by every equitable Person, and that there will appear quite thro' this Work, nothing but a sincere Desire of contributing to the publick Good, as far as can be done by a Book of this nature, without entertaining Passion or Hatred against any one.





LOGIC:

OR, THE

ART of THINKING.

LOGIC is the Art of rightly directing our Reason in the Knowledge of Things, in order to instruct both ourselves and others in the same.

This Art consists in the Reflections Men have made upon the four principal Operations of the Mind, *Conceiving, Judging, Reasoning, and Disposing.*

We call by the Name of *Conception* the simple View we have of Things as they offer themselves to our Mind, as when we represent to ourselves a Sun, an Earth, a Tree, a Circle, a Square, Thought, Entity, without forming any express Judgment of them. And the Form by which we paint these Things to ourselves, is call'd an *Idea*.

We call by the Name of *Judgment* that Action of the Mind, whereby, joining together divers Ideas, it affirms or denies this to be that; as when having the Idea of the Earth, and the Idea is round, I affirm or deny that the Earth is round.

By *Reasoning* is meant that Action of the Mind, by which it forms one Judgment out of several others; as when having judg'd that true Virtue ought to be referred to God, and that the Virtue of the Pagans

was

was not referred to God, we from thence conclude that the Virtue of the Pagans was no true Virtue.

Disposition is the Name for that Action of the Mind by which, having upon one Subject (as for Example upon the Humane Body) various Ideas, various Judgments, and various Reasonings, it disposes them in such a manner as may be most proper for the clear Explication of that Subject. This is what is also called *Method*. All these Operations we perform by Nature, and they are sometimes done better by those who never learnt one single Rule of Logic, than by those who have study'd it.

This Art, therefore, does not consist in finding out a Way to perform these Operations, since Nature herself took Care to provide for that when she gave us Reason; but in making Reflections upon what Nature so operates, which is serviceable to us in three Things. The first is, in satisfying us that we make a right Use of our Reason; for the Consideration of the Rule begets in us a new Attention.

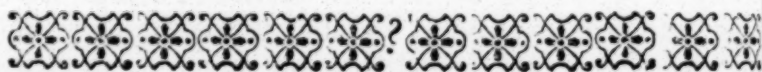
The second is, in more easily detecting and explaining the Error or Defect which may happen in the Operations of our Mind. For we do often, by the meer Light of Nature, discover that an Argument is false, but we do not at the same time discover wherein it is false; as those who do not understand Painting may be shock'd at a Fault in a Picture, without being able to tell what that Fault is.

The third is, in giving us an *Insight* into the Nature of the Mind by the Observations we make upon its Actions; which of itself is more valuable (if we consider only the Speculation) than the Knowledge of all the Corporeal Things in the Universe, which are infinitely below the Spiritual Things.

If the Reflections we make upon our Thoughts had been made only for ourselves, it had been enough to have considered them naked in themselves, without cloathing them with Words or any othe Signs:

But because we cannot communicate our Thoughts to one another, unless we join them to exterior Marks and because also this Custom is grown strong, that even when we meditate alone, Things never offer themselves to our Mind without the Words we have been used to express them by; it is necessary in Logic to consider Ideas join'd to Words, and Words join'd to Ideas.

From all that has been said, it necessarily follows, that Logic may be divided into four Parts, according to the different Reflections which we make upon these four Operations of the Mind.



THE

FIRST PART;

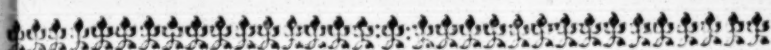
Containing Reflections upon the Ideas, or first Operation of the Mind, which is called Conception.

AS we can have no Knowledge of what is without us, but by the Help of the Ideas which are within us; the Reflections that may be made upon our Ideas are perhaps the most important Part of Logic, because it is the Foundation of all the rest.

These Reflections may be deduced under five Heads, according to the five Manners in which we consider Ideas.

1. According to their Nature and Origin.
2. According to the principal Difference of the Objects they represent.

3. According to the Simplicity or Composition; wherein we shall treat of the Abstractions and Precisions of the Intellect.
4. According to their Extent or Restriction; that is to say, their Universality, Particularity, and Singularity.
5. According to their Clearness and Obscurity, or Distinction and Confusion.



C H A P. I.

Of Ideas according to their Nature and Origin.

THE Word *Idea* is of the Number of those which are so clear, that they cannot be explain'd by others, because none are more clear and simple.

But all that can be done to prevent any Mistake in this Case, is to take Notice of the false Sense which is put upon this Word by those who restrain it to that only way of conceiving Things, which is performed by the Application of the Mind to the Images painted in our Brain, and which is called Imagination.

For, as St. *Austin* often observes, Man ever since his Fall has been so accustomed to consider only Corporeal Things, whose Images enter thro' the Senses into the Brain, that it is generally imagined we cannot conceive a Thing when we cannot imagine it, that is, represent it to ourselves under a Corporeal Image; as if this were the only Manner in which we could think and conceive.

Whereas we cannot reflect upon what passes in our Mind, without being convinced that we conceive a vast Number of Things without any such Images, and that there is a wide Difference between Imagination and pure Intellection. For when, for Example, I imagine to my self a Triangle, I do conceive it not

only as a Figure terminated by three right Lines; but I further consider those three Lines as present by the Force and interior Application of my Mind; and this properly is what is called imagining. But if I think of a Figure of a thousand Angles, I indeed conceive it to be a Figure consisting of a thousand Sides, as easily as I conceive a Triangle to be a Figure consisting of three Sides only; but I cannot imagine to myself the thousand Sides of that Figure; nor (if I may use the Expression) look upon them with the Eyes of my Mind, as if they were present.

It is however true, that the Habit we have contracted of making use of our Imagination when we think of Corporeal Things, is the Reason that when we conceive a Figure of a thousand Angles, we often make to ourselves a confused Representation of some Figure; but it is evident the Figure which we thus represent to ourselves by the Help of the Imagination is not really a Figure of a thousand Angles, because it does not in the least differ from what I should represent to myself if I thought of a Figure of ten thousand Angles; nor does it in any wise serve to shew the Proprieties wherein consists the Difference of a Figure of a thousand Angles from any other Polygon.

I cannot therefore, to speak justly, imagine to myself a Figure of a thousand Angles, since the Imagination which I should go about to paint in my Imagination would as soon represent to me any other Figure of a great Number of Angles as that of a thousand Angles; and yet I can conceive it very clearly and very distinctly; since I can demonstrate all the Proprieties of it particularly that all its Angles together are equal to 1996 Right Angles; and consequently 'tis one thing to imagine, and another to conceive.

This is demonstrated still more clearly, if we consider many Things which we conceive very distinctly tho' they are far from being of the Number of the things which we can imagine. For what do we conceive

more plainly than our Thought when we think? and yet it is impossible to imagine to ourselves a Thought, or to paint any Image of it in our Brain. The Affirmation *Yes*, and the Negation *No*, cannot neither have any Image annexed to them: He that judges that the Earth is round, and he that judges that it is not round, having both the same Things delineated in the Brain, namely, the Earth and Roundness, only the one adding the Affirmation, which is an Action of his Mind, and which he conceives without any Corporeal Image, and the other a contrary Action, which is Negation, and which is even less capable of an Image than the other.

When therefore we speak of Ideas, we do not intend by that Word the Images which are painted in the Fancy, but all that is in our Mind, when we can say with Truth that we conceive a Thing, be the Manner wherein we conceive it what it will.

From whence it follows, that we can express nothing by our Words when we ourselves understand what we say, but that it must of course be evident that we have within us the Idea of the Thing which we signify by our Words, tho' that Idea be at some Times more clear, and at others more confused, as we shall hereafter shew. For it would be a Contradiction to myself to say that I know what I say when I pronounce a Word, but that yet I do not conceive any thing when I pronounce it, besides the Sound of the Word itself.

And this plainly proves the Falsity of two very dangerous Opinions which have been advanced by some Philosophers of this Age.

The first is, that we have no Idea of God. For if we had no Idea of him upon our pronouncing the Name of God, we should conceive nothing but these three letters, G, O, D, and one of our Countrymen would have nothing farther arise in his Mind at hearing the Name of God, than if entering into a Synagogue, and

and being entirely ignorant of the Hebrew Tongue, he should hear pronounced in Hebrew, *Adonai*, or *Elohim*.

And when mortal Men have usurped the Name of God, (like *Caligula* and *Domitian*) they had not committed any Impiety, since there is nothing in those Letters, or in those two Syllables *Deus*, which may not be ascribed to any Man, if no Idea be affixed to them. For which Reason the *Hollander* is not called impious for having taken the Name of *Ludovicus Deus*. Wherein then consisted the Impiety of those Princes, but that by leaving to this Word *Deus* a part at least of its Idea, to wit, that of an excellent and adorable Nature, they assumed the Name with the Idea annexed to it?

But if we have no Idea of God, whereon do we build all that we say of God; as, that there is but One, that he is Eternal, Almighty, Good, Omniscient, since there is nothing of all this included in the Sound of the Word *God*, but only in the Idea which we have of God, and which we have joined to that Sound?

For this alone it also is, that we deny the Appellation of God to all the false Deities, not because the Word might not be ascribed to them if materially taken, since it has been ascribed to them by the Pagans; but because the Idea which is within us of the Sovereign Being, and which Use has strictly united to this Word *God*, will not agree with any but the One True God.

The second of these false Opinions is what an Englishman has said, *That Reasoning is perhaps nothing else but a Connexion and Chain of Names link'd together by the Word Est*, It is. Whence it follows, that by Reason we conclude nothing at all touching the Nature of Things, but only touching their Appellations; that is to say, we barely see whether we join together the Names of Things well or ill, according to the Conventions we have made at Pleasure relating to their Significations.

To which the same Author adds ; *If this be so, as certainly it may be so, Reasoning will depend upon Words, Words upon the Imagination, and the Imagination will perhaps depend, as I believe it does, upon the Movement of the Organs of the Body ; and thus our Soul (Mens) will be nothing else than a Movement in some Parts of the Organical Body.*

We are to believe that these Words contain only an Objection far remote from the Sense of the Author that here proposes it ; but if we take them in an assertive Sense, they tend to ruin the Immortality of the Soul : It is of Consequence to shew the Falsity of them, which will be no hard Matter to do. For the Convention which this Philosopher speaks of, can have been nothing else but the Agreement Men have made to use certain Sounds as the Signs of the Ideas we have in our Mind. So that if besides the Names we had not within us the Ideas of the Things, this Convention had been impracticable, as it is impossible by any Convention whatsoever to make a blind Man understand what we mean by the Words Red, Green, Blue ; because not having those Ideas, he could not unite them to any Sound.

Moreover, the several Nations having given various Names to Things, even to the most clear and most simple, such as are those which are the Objects of Geometry, they had never fallen into the same Reasoning concerning the same Truths, if Reasoning was only an Assemblage of Names join'd together by the Word *Est, It is.*

And as it appears by this Variety of Words, that the *Arabians* (for Example) never entered into a Convention with the *French* to give the same Signification to Sounds ; so neither could they agree in their Judgments and Reasonings, if the Reasonings depended upon that Convention.

Lastly, those who say that the Signification of Words is *Arbitrary*, do speak in a very obscure and equi-

equivocal Manner. For tho' it is true that it is thing meerly arbitrary to join such an Idea to such a Sound sooner than to another, yet the Ideas, especially such as are clear and distinct, are very far from being Arbitrary, or dependant upon our Fancy. And to prove this plainly, we aver that it would be ridiculous to believe that very real Effects can proceed from Things meerly Arbitrary. Now when a Man has concluded from his Reasoning, that the Iron Ax which passies thro' two Milstones might turn round without turning the lower Milstone, if being round it self it also passed thro' a round Hole; but that it could not turn about without turning the upper Milstone, if being square itself it were jointed into a square Hole in that upper Milstone; the Effect he supposes does necessarily follow. And consequently his Reasoning was not an Assemblage of Names according to a Convention depending entirely upon the Fancy of Men, but a solid and conclusive Judgment of the Nature of Things from Reflection upon the Ideas which he has of them in his Mind, and which Men have been pleased to denote by certain Names.

This is enough to shew what we understand by the Word Idea; it only remains to say something of their Origin.

The whole Question is, Whether all our Ideas proceed from the Senses, and whether the common Maxim may be allowed for true? *Nihil est in intellectu quod non prius fuerit in sensu.*

This is the Opinion of a Philosopher much esteemed in the World, and who begins his Logic with this Proposition, *Omnis Idea orsum ducit à sensibus.* Every Idea owes its Origin to the Senses. He confesses however, that all our Ideas were not in our Senses the same that they are in our Mind; but he holds that they were at least formed out of those which have passed thro' our Senses, either by Composition, or when out of the separate Images of Gold, and of

Mount

Mountain we make a Mountain of Gold; or by Amplification and Diminution, as when from the Image of a Man of an ordinary Size, we form to ourselves a Giant or a Pigmy; or by Similitude and Proportion, as when from the Idea of a House which we have seen, we form to ourselves the Image of a House which we have not seen. And thus, adds he, we conceive God (who cannot fall under the Senses) by the Image of a venerable old Man.

According to this Doctrine, tho' all our Ideas should not indeed resemble some particular Body which we have seen, or which has struck our Senses, they would still be all Corporeal, and would represent nothing to us that had not first entered the Senses, at least in Parts. And thus we should conceive nothing but by Images, resembling those which are formed in the Brain, when we see or imagine to ourselves any particular Body.

But tho' this Opinion is held not only by him, but also by many School-Philosophers, I shall not scruple to affirm that it is very absurd, and no less contrary to Religion than to sound Philosophy. For, to say nothing but what is plain, there is not any thing we conceive more distinctly than our Thought, nor any Proposition more clear than this, *I think, Therefore I am*. Now we cannot be convinced of this Proposition, unless we distinctly conceive what it is *to Be*, and what it is *to Think*; neither ought it to be expected that we should explain those Terms, since they are of the Number of those which are so well understood by every one, that to go about to explain them is only to obscure them. If then it is undeniable that we have within us the Ideas of *Being* and of *Thought*, I ask, thro' what Senses did they enter? Are they Ideas of Light or Colour, to enter thro' the Sight? Are they of a shrill or deep Sound, to enter thro' the Hearing? Are they odoriferous or noisome, to enter thro' the Smelling? Are they savory or nauseous,

feous, to enter thro' the Taste? Cold or hot, soft or hard, to enter by the Feeling? If it is answered that they were formed from other sensible Images, let them tell us what those other sensible Images are, from whence they pretend the Ideas of Being and Thought were formed, and how they could be formed either by Composition or by Amplication, or by Diminution, or by Proportion. But if they can make no Reply to this but what must be contrary to Reason, it must then be allowed us that the Ideas of Being and of Thought do not any way owe their Origin to the Senses, but that our Soul is endued with the Faculty of forming them from herself, tho' it often happens that she is incited to do it by something that strikes the Senses; as a Painter may be incited to draw a Picture by the Money that is offered him for it, without giving Ground to say therefore that the Picture ow'd its Origin to the Money.

But what the same Authors add, that the Idea we have of God owes its Origin to the Senses, because we conceive him under the Image of a Venerable Old Man, is a Thought fit only for the Anthropomorphites, and it confounds the real Ideas we have of Spiritual Things with the false Images which from an ill Custom of trying to imagine all Things we form to ourselves of them; whereas it is as absurd to pretend to imagine what is not Corporeal, as to pretend to hear Colours, and to see Sounds.

To confute this Opinion, we need only consider that if we had no other Idea of God besides that of a Venerable old Man, all the Judgments we make of God must appear false to us, when they are contrary to that Idea. For we are naturally induced to believe our Judgments are false, when we plainly see they are contrary to the Ideas we have of the Things: And thus we could not judge with Certainty that God has no Parts, that he is not Corporeal, that he is every where, that he is invisible; since all this

not, soft is by no means conformable to the Idea of a venerable
 answered old Man. If God did sometimes reveal himself un-
 images, under that Form, it does not follow from thence we
 images and should have no other Idea of him but that, since
 ng and then we must have no Idea of the Holy Ghost but
 be formed that of a Dove, because he appeared in the Form of a
 or by the Dove; or we must conceive God only as a Sound, be-
 can make cause the Sound of the Name of God serves to stir up
 y to Re his Idea in us.

reas of Be It is therefore false that all our Ideas proceed from
 their Ori our Senses; but it may be affirmed, on the contrary,
 lued with that no Idea whatsoever which is in our Mind owes
 ho' it of its Origin to the Senses, unless occasionally, that is
 something to say, when the Movements made in our Brain
 be incited which is all our Senses can do) give Occasion to the
 lered him soul to form to itself divers Ideas which it had not
 before that formed without those Movements, tho' these Ideas
 hardly ever have any thing like the Images delineated
 e Idea we in the Senses and in the Brain; and that there are also
 , because very great Number of Ideas, which, not having the
 rable Old least Mixture of any Corporeal Image, cannot, without
 ropomore manifest Absurdity, be referred to our Senses.

e have d If it be objected, that at the same time that we have
 ich from the Idea even of spiritual Things, such as of Thought,
 s we form we do nevertheless form to ourselves some Corporeal I-
 d to pre- mage, at least of the Sound which expresses it; this will
 o pretend not be saying any thing contrary to what we have prov-
 d: For this Image of the Sound of Thought which we
 consider imagine, is not the Image of Thought itself, but only
 s that of a Sound; and it cannot serve to make us conceive it
 make o any further than that the Soul having used herself when
 are con- she conceives that Sound to conceive Thought also, does
 duced to at the same time form to herself an Idea of Thought al-
 ainly see together spiritual, and which has no relation with that
 e of the of the Sound, but is only united to it by Custom: Which
 Certainly is apparent in deaf People, who tho' they can have no
 eal, that Images of Sounds, have yet Ideas of their Thoughts, at
 all this least when they reflect upon what they think.



C H A P II.

Of Ideas consider'd according to their Objects.

WHatever we conceive, is represented to our Mind either as a Thing, or as a Manner or Mode of a Thing, or as a Thing modify'd.

I call that Thing, which we conceive as subsisting by itself, and as the Subject of all that we conceive therein. This is what is also called Substance.

I call Manner of a Thing, or Mode, or Attribute, or Quality, that which being conceived to be in the Thing, and not being able to subsist without it, determines it to be of a certain Sort, and causes it to be so called.

I call it a Modified Thing, when the Substance is considered as determined by a certain Manner or Mode.

These Things will be much better apprehended with the Help of Examples.

When I consider a Body, the Idea I have of it represents to me a Thing or Substance, because I consider it as a Thing which subsists by itself, and which has no need of any Subject to exist.

But when I consider that this Body is round, the Idea I have of Roundness represents to me only a Manner of Being, or a Mode, which I conceive could not naturally subsist without the Body of which it is the Roundness.

And lastly, when joining the Mode with the Thing I consider a round Body, that Idea represents to me a Thing modified.

The Names which are used to express Things are called Substantives or Absolutes, as Earth, Sun, Mind, God.

Those

Those likewise that primarily, and directly signify the Modes, (because in that Point they are something like the Substances) are called Substantives and Absolutes, as Hardness, Heat, Justice, Prudence.

The Names that signify the Things as modified, shewing primarily and directly the Thing, tho' more confusedly and indirectly the Mode, tho' more distinctly, are called Adjectives, or Connotatives, as round, hard, just, prudent.

But it is to be observed, that our Mind being accustomed to know most Things as modified, because hardly knows them by any thing besides the Accidents or Qualities that strike our Senses, it often divides a Substance even in its Essence into two Ideas, whereof one it looks upon as the Subject, and the other as the Mode. Thus, tho' every Thing that is in God is God himself, he is nevertheless conceived as an infinite Being, and Infinity is taken for an Attribute of God, and the Being for a Subject of that Attribute. Thus Man is often consider'd as the Subject of Humanity, *habens humanitatem*, and consequently as a Thing modified.

And then the essential Attribute, which is the Thing itself, is taken for the Mode, because it is conceived as being in a Subject. This is properly what we call the abstracted Substance, as Humanity, Coriariety, Reason.

It is nevertheless of very great Importance to know what is really a Mode, and what is only so in Appearance, because one of the chief Causes of our Errors is our confounding the Modes with the Substances, and the Substances with the Modes. It is when the Nature of the true Mode, that the Substance of which it is the Mode may be clearly and distinctly conceived without it; but that the Mode cannot reciprocally be conceived clearly, without conceiving at the same time the Relation it has to the Substance, without which it cannot naturally rest.

Not

Not that we cannot conceive the Mode without giving a distinct and express Attention to its Substance, but what proves that the Relation to the Substance is included at least confusedly in the Mode, is, that we cannot deny this Relation of the Mode, without destroying the Idea we had of it; whereas when we conceive two Things or two Substances, we can deny the one of the other without destroying the Idea we had of each.

For Example, I can easily deny Prudence, without having a distinct Attention upon some Man that is prudent; but I cannot conceive Prudence, and at the same time deny the Relation it has to a Man, or to some other intelligent Nature endued with that Virtue.

Contrarywise, when I have consider'd all that appertains to an Extended Substance, which is called Body, as Extention, Figure, Mobility, Divisibility, and that on the other hand I consider all that appertains to the Mind and to the Thinking Substance, as Thought, Doubt, Memory, Will, Reasoning; I can deny of the Extended Substance all that I conceive of the Thinking Substance, without ceasing therefore to conceive very distinctly the Extended Substance, and all the other Attributes annexed to it; and I can reciprocally deny of the Thinking Substance all that I conceived of the Extended Substance, without ceasing therefore to conceive very distinctly all that I conceive in the Thinking Substance.

And this also proves that Thought is not a Mode of Extended Substance, because Extended Substance and all its Proprieties may be deny'd of Thought, and a Man at the same time may conceive a Thought very clearly.

It may be observed upon the Subject of Modes, that there are some which may be called Intrinsic, because they are conceived to be in the Substance, as

round,

round, square; and others which may be called Extrinsic, because they are taken from something that is not in the Substance, as beloved, seen, desired, which are Names taken from the Actions of another Person; and this is what is called in the Schools, Extrinsic Denominations. If these Modes are taken from some Manner wherein Things are conceived, they are called Second Intentions. Thus, to be subject, to be ascribed, are Second Intentions, because they are the Manners wherein we conceive the Things that are taken from the Action of the Mind, which has ty'd together two Ideas, by affirming the one of the other.

It may be further observed, that there are Modes which may be called Substantial, because they represent to us real Substances apply'd to other Substances, as if they were Modes and Manners; clothed, armed, are Modes of this kind.

There are others which may be called simply real, and these are the real Modes which are not Substances, but Manners of Substance.

Lastly, There are others which may be called Negative, because they represent to us the Substance, with a Negation of some real or substantial Mode. If the Objects represented by these Ideas, whether Substances or Modes, are indeed such as they are represented to us to be, they are called True: If they are not such, they are false in that manner wherein they can be false; and these are what in the Schools are called, *Beings of the Reason*, which generally consist in the Conjunction the Mind makes of two Ideas real in themselves, but which are not joined in Fact so as to form one same Idea. Thus the Idea we may form to ourselves of a Mountain of Gold, is a Being of the Reason, because it is compounded of two Ideas, of a Mountain and of Gold; which two Ideas it represents as united, when really they are not so.



C H A P. III.

Of Aristotle's Ten Categories.

TO this Consideration of Ideas, according to the Objects, may be subjoined *Aristotle's* ten Categories, since they are only several Classes, wherein the Philosopher designed to include all the Objects of our Thoughts, by taking in all the Substances under the first, and all the Accidents under the other nine. They are these:

I. SUBSTANCE, which is either Spiritual or Corporeal, &c.

II. QUANTITY, which is called discreet, when the Parts are separate, as Number:

Continued when they are conjoined, and then it is either Successive, as Time, Motion:

Or permanent, which is what is also called Space or Extension in Length, Breadth, Depth; Length making only Lines; Breadth and Length, Surface; and all three together the Solids.

III. QUALITY, whereof *Aristotle* reckons four Kinds:

The First comprehends the *Habits*, that is to say the Dispositions of Mind, or of Body, acquired by reiterated Acts, as the Sciences, the Virtues, the Vice, Skill in Painting, Writing, Dancing.

The Second the *Natural Powers*, such as are the Faculties of the Soul, or of the Body, the Understanding, the Will, the Memory, the five Senses, the Power of Walking.

The Third the *sensible Qualities*, as Hardness, Softness, Heaviness, Cold, Heat, Colours, Sounds, Smells, the various Tastes.

The F
Determi
Spherical
IV. P
of Fath
of Subje
Things
parison,
V. A
dance,
beat, to
VI. I
warmed
VII.
Question
Paris, in
VIII.
to Que
flourish
done? Y
IX. S
before,
X. T
about o
Armour
armed.
These
up for f
are Thir
not help
true Log
two Rea
The F
on to be
whereas
dation b
ny to p

The Fourth *Form and Figure*, which is the exterior Determination of Quantity; as to be round, square, spherical, cubical.

IV. RELATION of one Thing to another, as of Father, of Son, of Master, of Servant, of King, of Subject, of Power to its Object, of Sight to Things visible; and every thing that denotes Comparison, as like, equal, greater, smaller.

V. ACTION, either in itself, as to walk, to dance, to know, to love; or out of itself, as to beat, to cut, to break, to light, to warm.

VI. PASSION, being beaten, broke, lighted, warmed.

VII. WHERE, that is to say, what we answer to Questions relating to Place; as, being at *Rome*, at *Paris*, in our Closet, in Bed, in a Chair.

VIII. WHEN, that is to say, what we answer to Questions relating to Time; as, When did he flourish? A hundred Years ago. When was that done? Yesterday.

IX. SITUATION, being sitting, standing, abed, before, behind, on the right Hand, on the left.

X. TO HAVE, that is to say, to have something about one to serve for Cloathing, or Ornament, or Armour; as to be cloathed, to be crowned, to be armed.

These are *Aristotle's* ten Categories, which are cry'd up for such mighty Mysteries, tho', to say Truth, they are Things of very little use, and which not only do not help to form the Judgment, which is the End of Logic, but which often are very prejudicial for two Reasons, which it is of Consequence to observe.

The First is, That these Categories are looked upon to be Things grounded upon Reason and Truth; whereas they are wholly arbitrary, and have no Foundation but in the Fancy of a Man that had no Authority to prescribe a Law to others, who have as much Right

Right as he to dispose the Objects of their Thoughts under what Heads they please, every one according to his Way of Philosophizing. And indeed, there are some that have included in this Distic all that, according to a new Philosophy, falls under our Consideration in all the Things of the Universe.

*Mens, mensura, quies, motus, postura, figura:
Sunt cum materia cunctarum exordia rerum.*

That is to say, those Philosophers hold, that we may account for all the Works of Nature by considering in them only these seven Things or Modes. 1. *Mens*, the Mind, or Thinking Substance. 2. *Materia*, Body, or Extended Substance. 3. *Mensura*, the Greatness or Smallness of every Part of Matter. 4. *Postura*, their Position with relation to one another. 5. *Figura*, their Figure. 6. *Motus*, their Motion. 7. *Quies*, their Rest or lesser Motion.

* The Second Reason that makes the Study of the Categories dangerous, is, that it accustoms Men to be satisfied with Words, and to imagine that they know all Things, when indeed they only know a Parcel of arbitrary Names, which form no clear and distinct Idea in the Mind, as we shall shew elsewhere.

Here something might also be said of the Attributes of the Lullists, *Goodness, Power, Magnitude*, &c. but indeed it is a thing so very ridiculous to imagine as they do, that by applying those Metaphysical Words to whatever is proposed to them they can account for every thing, that it does not deserve so much as to be confuted.

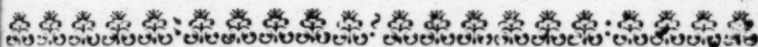
An Author of this Age has said with great Reason That the Rules of *Aristotle's* Logic serve to prove to another what we know already; but that *Lully's* Art only taught us to discourse injudiciously of what we were wholly unacquainted with. Ignorance is much more valuable than that false Learning, which makes

us imagine
For, as
the Use
very bl
is false
by mak
ly, Tha
kens an
pissim
persua
ignum
Latin T
Man, v
and so
For whi
pientem
that Vi



WH
Mind t
it is an
Sun. I
as it re
is an Id
Sign.
tures.
the Thi
represent
by the f

us imagine we know what indeed we do not know. For, as St. *Austin* very wisely observes in his Book of the Usefulness of Faith, this Disposition of Mind is very blameable for two Reasons: First, That he who is falsely perswaded he knows the Truth, does thereby make himself incapable of attaining it. Secondly, That this Presumption and this Temerity betokens an ill Frame of Mind. *Opinari, duas ob res turpissimum est: Quod discere non potest qui sibi jam se scire persuasit; & per se ipsa temeritas non bene affecti animi signum est.* For the Word *Opinari*, in the Purity of the Latin Tongue, signifies a Disposition of the Mind of Man, which gives too readily into uncertain Things, and so he fancies he knows what he is ignorant of: For which Reason all the Philosophers maintained *Sapientem nihil opinari*; and *Cicero*, blaming himself for that Vice, says, he was *magnus opinator*.



C H A P. IV.

Of Ideas of Things, and Ideas of Signs.

WHEN we consider an Object in itself, and in its own Being, without carrying the View of the Mind to what it may represent, the Idea we have of it is an Idea of a Thing, as the Idea of the Earth or Sun. But when we look upon a certain Object only as it represents another, the Idea we then have of it is an Idea of a Sign, and this first Object is called a Sign. 'Tis thus we generally behold Maps and Pictures. So that the Sign includes two Ideas, that of the Thing which represents, and that of the Thing represented; and its Nature is to stir up the second by the first.

D

We

We might make several Divisions of Signs: but we shall content ourselves here with three, which are of greatest Use.

I. There are sure Signs, which in Greek are called *τεκμήρια*, as Respiration is of the Life of Animals. And there are others which are only probable, and which in Greek are called *σημεία*, as Paleness is only a probable Sign of a Woman's being with Child.

Most of the rash Judgments of Men proceed from their confounding these two Sorts of Signs, and ascribing an Effect to one certain Cause, tho' it might well arise from other Causes, and 'tis therefore only a probable Sign of that Cause.

II. There are Signs annexed to the Things, as the Air of the Countenance, which is a Sign of the Movements of the Soul, is annexed to those Movements which it signifies; the Symptoms, that are Signs of Distempers, are annexed to those Distempers; and to instance in greater Examples: As the Ark, which is a Sign of the Church, was annexed to Noah and his Children, who were the true Church at that Time; so our material Temples, which are Signs of the Faithful, are often annexed to the Faithful; so the Dove, the Figure of the Holy Ghost, was annexed to the Holy Ghost; so the Sprinkling in Baptism, which is the Figure of the spiritual Generation, is annexed to that Regeneration.

There are also Signs separated from the Things, as the Sacrifices of the ancient Law, which are the Signs of JESUS CHRIST sacrificed, were separated from what they represented.

This Division of Signs gives Birth to the following Maxims:

I. That we can never precisely argue either from the Presence of the Sign to the Presence of the Thing signified, since there are Signs of Things absent; or from the Absence of the Sign to the Absence of the Thing.

Thing signified, since there are Signs of Things present. It is therefore from the particular Nature of the Sign that we are to judge.

2. That tho' a Thing in some one State cannot be the Sign of itself in that same State, since every Sign requires a Distinction between the Thing representing and the Thing represented; nevertheless it is very possible for a Thing in a certain State to represent itself in another State, as it is very possible for a Man in his Chamber to be the Sign of himself preaching, and that thus the sole Distinction of State is enough between the Thing figuring and the Thing figured; that is to say, one and the same Thing may in a certain State be the Thing figuring, and, in another, the Thing figured.

3. That it is very possible for one and the same Thing to hide and discover another Thing at the same time, so that they who have affirmed, *that nothing can be made apparent by that which hides it*, have advanced a very disputable Maxim: For since the same Thing may be at the same time both Thing and Sign it may hide, as Thing, that which it discovers as Sign. Thus hot Cinders do hide Fire as being Things, and discover it as being Signs. Thus the Forms borrowed by the Angels do hide them as Things, and discover them as Signs. Thus the Symbols in the Eucharist do hide the Body of CHRIST as Things, and discover it as Symbols.

4. We may conclude, that since the Nature of the Sign consists in stirring up in the Senses by the Idea of the Thing figuring that of the Thing figured; so long as that Effect subsists, that is to say, while that double Idea is stirred up in us, the Sign also subsists, even tho' that Thing should be destroy'd even in its Nature. Thus it matters not whether or no the Colours in the Rainbow, which are chosen by God as the Sign that he will not again destroy Mankind by a Flood, be real and true, provided our Senses do still

receive the same Impression, and that they make use of this Impression to conceive the Promise of God.

And again, it matters not whether or no the Bread of the Eucharist subsists in its proper Nature, provided that it continues to stir up in our Senses the Image of Bread, which helps us to conceive in what Manner the Body of JESUS CHRIST is the Nourishment of our Souls, and how the Faithful are united together.

The Third Division of Signs is, that there are natural ones, which do not depend upon the Fancy of Men, as the Image which appears in a Looking-glass is a natural Sign of the Person it represents; and that there are others which arise only from Institution and Establishment, whether they have some distant Relation to the Thing figured, or whether they have none at all. Thus Words are owing to Institution, and are the Signs of Thoughts, as Letters are of Words. When we come to treat of Propositions, we shall explain an important Truth upon these Sorts of Signs; namely, that upon some Occasions we may affirm of them the Things signified.

Not Symbols But



CHAP V.

Of Ideas consider'd according to their Composition or Simplicity.

Wherein the Manner of knowing by Abstraction or Precision is treated of.

WHAT we have slightly touched upon in the Second Chapter, namely, that we can consider a Mode without reflecting distinctly upon the Substance

stance of
explain v
The
to com
compoun
it in Pa
Faces it
neral ma

But as
Parts rea
as the P
it is ver
can appl
out con
really d
fraction

Now
the Part
so doing
of them
know th
it into
giving t
also stan
no need
ber, bec
that the
dividin
would
to mult
gures ca

The
sider a
Modes
each of
Geomet
their Se
and De

stance of which it is the Mode, gives us Occasion to explain what is called *Abstraction of the Mind*.

The narrow Limits of our Mind will not suffer us to comprehend, any thing perfectly that is a little compounded, by any other Means than by considering it in Parts, and as it were according to the several Faces it is capable of receiving. This is what in general may be called knowing by Abstraction.

But as Things are differently compounded, some of Parts really distinct, which are called Integral Parts, as the Humane Body, the several Parts of a Number; it is very easie in that case to conceive that our Mind can apply itself to the Consideration of one Part without considering the other, because those Parts are really distinct, and this is not what is called *Abstraction*.

Now 'tis so useful even in those Things to consider the Parts rather separately than in gross, that without so doing we can hardly have any distinct Knowledge of them. For, by way of Example, How can we know the Humane Body otherwise than by dividing it into all its Parts similar and dissimilar, and by giving them each its different Name? Arithmetick also stands upon the same Foundation: For we have no need of an Art to divide or multiply a little Number, because the Mind can comprehend it intire; so that the whole of the Art consists in multiplying or dividing by Parts what we cannot do in Gross, as it would be impossible, with ever so great a Capacity, to multiply by each other two Numbers of 8 or 9 Figures each, by taking all together and at once.

The second Knowledge by Parts, is when we consider a Mode without regarding the Substance, or two Modes united in one and the same Substance, taking each of them separately. This is what is done by the Geometricians, who have taken for the Object of their Science a Body extended in Length, Breadth, and Depth. For, in order to know it the more per-

fectly, they first apply'd themselves to consider it according to ~~one~~ single Dimension, which is Length, and then they gave that the Name of Line. Afterwards they consider'd it according to two Dimensions together, Length and Breadth, and this they call'd a Superficies. And then considering all the three Dimensions conjoin'd, Length, Breadth, and Depth, they call'd that a Solid, or a Body.

* This shews the Folly of the Argument of some Sceptics who would have us doubt of the Certainty of Geometry, because it supposes Lines and Superficies, which do not exist in Nature. For the Geometricians do not suppose that there really are Lines without Breadth, or Superficies without Depth; but they only suppose that we may consider Length without regarding Breadth at the same time, which is indisputable; as when we measure the Distance between Town and Town, we only measure the Length of the Roads, without troubling ourselves with taking an Account of their Breadth.

Now by how much the greater Number of Modes we can divide Things into, so much the more capable we become of accurately understanding them. And thus we see, that so long as the Philosophers did not in Motion make a Distinction between the Determination towards some Place and the Motion itself, and even various Parts in one and the same Determination, they could never clearly account for Reflection and Refraction: Which was easily done by means of this Distinction, as may be seen in the 2d Chapter of Monsieur *Descartes's* Dioptrics.

The third way of conceiving Things by Abstraction, is when one and the same Thing having divers Attributes, we reflect upon one without thinking of the rest, tho' there be no Distinction between them but a Distinction of the Reason. And this is done as follows: If I consider, for Example, that I Think, and that consequently it is I that Think; in the Idea I

have

have of myself Thinking, I can apply my self to the Consideration of a Thing that Thinks, without taking Notice that it is me; tho' in me, I and the Person that Thinks am one and the same Thing. And thus the Idea I conceive of a Person that Thinks will represent not only me, but all other Persons that Think. In the same Manner, having drawn upon Paper an equilateral Triangle, if I set myself to consider it in the Place where it is, with all the Accidents that determine it, I shall have the Idea of this one Triangle only. But if I call off my Mind from the Consideration of all these particular Circumstances, and bend it only to think that it is a Figure bounded by three equal Lines, the Idea I shall form to myself of it will on the one hand represent to me more clearly that Equality of Lines, and on the other will be capable of representing to me all manner of equilateral Triangles. If I proceed further, and taking off my Thoughts from the Equality of its Lines, consider only that it is a Figure terminated by three Right Lines, I then form to myself an Idea which will represent all Triangles in general. If, lastly, not keeping my View upon the Number of Lines, I only consider it as a flat Superficies bounded with Right Lines, the Idea I shall form to myself of it will represent all Rectilineal Figures; and thus from Degree to Degree I may ascend to Extention itself. Now in these Abstractions it always appears that the inferior Degree includes the Superior with some particular Determination: As *Me* includes the Thing that thinks, and the equilateral Triangle includes the Triangle, and the Triangle the Rectilineal Figure; but that the superior Degree being less determined, may represent more Things.

Lastly, it is visible that by these Sorts of Abstractions the Ideas of Singulars become common, and the Common become more common; which affords us an Occasion of passing on to what we have to say

of Ideas consider'd according to their Universality or Particularity.



CHAP. VI.

Of Ideas consider'd according to their Universality, Particularity, and Singularity.

THO' all the Things which exist be Singular, yet by means of the Abstractions which we explain'd in the last Chapter we have all of us many Sorts of Ideas, whereof some only represent to us one single Thing, as the Idea which every Man has of himself, and others may equally represent several Things; as when we conceive a Triangle, without considering in it any thing else but that it is a Figure consisting of three Lines and of three Angles, the Idea we have formed of it may help us to consider all the other Triangles,

The Ideas which represent only a single Thing are called Singular or Individual, and the Things they represent are called *Individuals*; and those which represent several, are called Universal, common, general.

The Names that denote the former are called Proper, *Socrates, Rome, Bucephalus*; and those that denote the latter, Common and Appellative, as *Man, City, Horse*. And both Universal Ideas and Common Names may be called General Terms.

But we are to observe, that there are two Sorts of General Terms; one which may be called Universal, which is, when they are annexed to General Ideas, so that the same Word belongs to several, not only according to the Sound, but also according to the Idea

join'd to mention

The
is, whe
by Men
belongs
same Id
which i
Canon f
tree; b
widely
Never

Sorts.
same So
one and
Relatio
princip
count o
or of S
these S
as whe
to the
Word
mals o
which
Cause
healthy
to the

But
underst
sal and

Now
which
Compr
I ca
which
take f
hensio

join'd

join'd to it. Of this Sort are the Words we just now mention'd, Man, City, Horse.

The other, which may be called *Equivocal*, which is, when one and the same Sound has been annexed by Men to different Ideas, so that the same Sound belongs to several Ideas, not according to one and the same Idea, but according to the different Ideas to which it is found united in Use. Thus the Word *Canon* signifies a great Gun, and an Ecclesiastical Decree; but it signifies them according to Ideas that are widely different.

Nevertheless the Equivocal Universality is of two Sorts. For the different Ideas, join'd to one and the same Sound, either have no natural Relation between one another, as in the Word *Canon*, or have some such Relation; as when a Word being join'd to one Idea principally, it is join'd to another Idea only upon Account of some Relation either of Cause, or of Effect, or of Sign, or of Resemblance of Cause; and then these Sorts of Equivocal Words are called *Analogous*; as when the Word *Healthy* is ascribed to the Animal, to the Air, and to Food. For the Idea join'd to this Word is principally Health, which is proper to Animals only; but Men have join'd another Idea to it, which comes near to the first; namely, the being the Cause of Health, which makes us say an Air is healthy, a Food is healthy, because they contribute to the Preservation of Health.

But when we speak here of General Words, we understand the Univocal, which are join'd to Universal and General Ideas.

Now in these Universal Ideas there are two Things which are of great Importance to distinguish rightly, *Comprehension* and *Extent*.

I call *Comprehension* of the Idea those Attributes which it includes within itself, and which we cannot take from it without destroying it; as the *Comprehension* of the Idea of a Triangle includes *Extension*,
D 5
Figure,

Figure, three Lines, three Angles, and the Equality of those three Angles with two Right Angles, &c.

I call *Extent* of the Idea those Subjects to which that Idea agrees, which are also called the Inferiors of a general Term, which, with respect to them, is called Superior, as the Idea of a Triangle in general extends to all the various Sorts of Triangles.

But tho' the general Idea extends indistinctly to all the Subjects to which it agrees, that is to say, to all its Inferiors, and that the common Name signifies them all; yet there is this Difference between the Attributes it includes, and the Subjects to which it extends, that you cannot take from it any of its Attributes without destroying it, as we said before; whereas you may contract it as to its Extent, by applying it only to some one of the Subjects to which it agrees, without in the least destroying it by so doing.

Now this Restriction or Contraction of the general Idea, as to its Extent, may be performed two Ways:

First, by joining to it another distinct and determined Idea; as when to the general Idea of a Triangle I join that of its having a Right Angle; which restrains that Idea to one single sort of Triangles, namely, to the Rectangled Triangle.

Secondly, by joining to it only an indistinct and undetermined Idea of a Part; as when I say, Some Triangle; in which case the common Term is said to become particular, because it extends then only to a Part of the Subjects to which it extended before, tho' the Part to which it is restrain'd be not determined.



CHAP. VII.

Of the five Sorts of Universal Ideas, Genus, Species, Difference, Propriety, Accident.

WHAT we have said in the preceding Chapters clears the Way for our explaining in a few Words the five Universals which are generally taught in the Schools.

For when the general Ideas represent their Objects to us as Things, and that they are marked by Terms called Substantives or Absolutes, they are called Genera or Species.

Of the GENUS.

They are called Genera, when they are common to such a Degree as to extend to other Ideas which themselves are universal, as the Quadrilatera is a Genus, with respect to the Parallelogram and the Trapezon: Substance is the Genus with respect to extended Substance, which is called a Body; and to the Thinking Substance, which is called the Mind.

Of SPECIES.

And these common Ideas, which are under one more common and more general, are called Species; as the Parallelogram and the Trapezon are Species of the Quadrilatera; Body and Spirit are Species of Substance.

And thus the same Idea may be Genus compared to Ideas to which it extends, and Species compared to another more general than itself; as Body, which is

a Genus in respect of the Body animate, and the Body inanimate is a Species in respect of Substance; and the Quadrilatera, which is a Genus in respect of the Parallelogram and the Trapezon, is a Species in respect of Figure.

But there is another Notion of the Word Species, which agrees only with the Ideas that cannot be Generala. This is when an Idea has beneath it only Individuals and Singulars; as the Circle hath beneath it only Singular Circles, which are all of the same Species. This is what is called the lowest Species, *Species infima*.

And there is a Genus which is not a Species, namely, the highest of all Genera, whether that Genus be *Being*, or whether it be *Substance*; which it is not much material to know, and which belongs rather to Metaphysics than to Logic.

I said, that those General Ideas which represent their Objects to us as Things, are called Genera or Species. For it is not necessary that the Objects of those Ideas should be really Things and Substances; but it is enough that we consider them as Things, in that even when they are Modes they are not referred to their Substances, but to other Ideas less or more general; as Figure, which is no more than a Mode in respect of the Body figured; is a Genus in respect of Figures Curvilinear, Rectilinear, &c.

And on the contrary, the Ideas which represent their Objects to us as Things modified, and which are expressed by Adjectives or Connotative Terms, if we compare them with the Substances which those Connotative Terms signify confusedly, tho' directly, (whether those Connotative Terms do in Truth signify Essential Attributes, which are indeed no other than the Thing itself, or whether they signify true Modes) they are not then called Genera nor Species, but either *Differences*, or *Proprieties*, or *Accidents*.

They

They are called *Differences*, when the Object of those Ideas is an essential Attribute, and distinguishes one Species from another; as extended, heavy, reasonable.

They are called *Proprieties*, when their Object is an Attribute, which indeed is inherent in the Essence of the Thing; but which is not the first that is considered in that Essence, but only a Dependant upon that first; as divisible, immortal, docible.

And they are called *Common Accidents*, when their Object is a true Mode which may be separated; at least by the Mind, from the Thing of which it is said to be the Accident, without destroying the Idea of that Thing in our Mind; as round, hard, just prudent. All this must be explain'd more particularly.

Of DIFFERENCE.

When a Genus hath two Species, the Idea of each Species must of Necessity comprehend something not comprised in the Idea of the Genus. For if each comprehended only what is comprised in the Genus, it would itself be the Genus; and as the Genus agrees with each Species, so every Species would agree with one another. Thus the first essential Attribute that each Species comprehends more than the Genus, is called its Difference, and the Idea we have of it is an universal Idea, because one and the same Idea can represent to us that Difference wherever we meet with it, that is to say, in all the Inferiors of the Species.

Example. The Body and the Mind are the two Species of Substance. There must therefore be something more in the Idea of the Body than in that of Substance, and so also in that of the Mind. Now the first thing that we observe more in the Body is Extension, and the first thing we observe more in the Mind

Mind is Thought. And thus the Difference of the Body is Extension, and the Difference of the Mind is Thought; that is to say, the Body is an Extended Substance, and the Mind a Thinking Substance.

Hence it appears, first, that Difference has an Eye two Ways, to the Genus which it divides, and to the Species which it constitutes, being the principal Part of what is included in the Idea of the Species according to its Comprehension. From whence it proceeds, that every Species may be expressed by one single Name, as Mind, Body; or by two Words, namely, by that of the Genus and that of its Difference join'd together, which is called Definition, Thinking Substance, extended Substance.

Secondly, it appears, that since the Difference constitutes the Species, and distinguishes it from the other Species, it ought to have the same Extent as Species, and consequently it must follow that they may be said one of the other, as every thing that thinks is Spirit, and every thing that is Spirit thinks.

Nevertheless it often happens, that in certain Things we do not find any Attribute that will agree so fully with a whole Species, as to agree only with that Species and no other; and in this Case the Way is to join several Attributes together, the Assemblage whereof not being observable in any Species besides that, constitutes the Difference of it. Thus the *Platonics* asserting that the *Dæmons* were rational Animals as well as Man, would not admit that the Difference of Rational was reciprocal to Man: For which Reason they added another to it, namely, Mortal, tho' neither this is reciprocal to Man, since it is common also to Beasts; but both together will agree only with Man. And thus it is that we frame to ourselves the Idea of most Sorts of Animals.

Lastly, we are to observe, that it is not always necessary that both the Differences which divide a Ge-

thus should be positive ; but that it suffices if only one be such, as two Men are distinguished one from the other, if the one has an Employment which the other has not ; tho' he who has no Employment has nothing that the other has not also. It is thus that Man is distinguished from Brutes in general, in that Man is an Animal endued with a Mind, *Animal mente preditum*, and that a Brute is a mere Animal, *Animal merum*. For the Idea of Brutes in general includes nothing of positive that is not in Man ; but we add to it a Negation of what is in Man, namely, a Mind. So that all the Difference there is between the Idea of Animal and that of Brute is, that the Idea of Animal does not include Thought in its Comprehension ; neither again does it exclude it, and even includes it in its Extent, because it agrees with a Thinking Animal ; whereas the Idea of Brute excludes it in its Comprehension, and therefore that Idea cannot agree with a Thinking Animal.

Of PROPRIETIES.

When we have found out the Difference that constitutes a Species, that is to say, its principal essential Attribute which distinguishes it from all other Species ; if, considering its Nature more particularly, we discover in it some other Attribute necessarily united with that first Attribute, and consequently agreeing with that whole Species, and with that only Species, *omni & soli*, we call that Attribute a Propriety ; and being signified by a Connotative Term, we ascribe it to the Species as its Propriety ; and because it is common also to every Inferior of the Species, and that the single Idea we have once formed of it will represent that Propriety where-ever it occurs, it is made the fourth of the Common and Universal Terms.

Example.

Example. To have a Right Angle is the essential Difference of the Rectangled Triangle. And because it is a necessary Dependence of the Right Angle, that the Square of the Side which supports it must be equal to the Squares of the two Sides which comprehend it, the Equality of those Squares is looked upon to be the Propriety of the Rectangled Triangle, agreeing with all Rectangled Triangles, and with them only.

Nevertheless this Name of Propriety hath been sometimes made to be of greater Extent, and four Species of it have been laid down.

The first is that which we have just explain'd, *Quod convenit omni, soli, & semper*; which agrees with All, and Only, and Always; as it is the Propriety of every Circle, and of the Circle only, and always, that the Lines drawn from the Center to the Circumference are all equal.

The 2d, *Quod convenit omni, sed non soli*; which agrees with All, but not Only; as it is said to be the Propriety of Extension to be divisible; because every Extension may be divided, tho' Duration, Number and Force, may be also divided.

The 3d is, *Quod convenit, soli sed non omni*; which agrees with that Only, but not with All of it; as it is proper to Man only to be a Physician or a Philosopher, tho' all Men are not so.

The 4th, *Quod convenit omni & soli sed non semper*; which agrees with All and Only, but not Always: For which the Change of the Colour of the Hair into Grey, *canescere*, is brought as an Example; which is proper to all Men, and to Men only; but not till they arrive at old Age.

Of ACCIDENTS.

We have already said in the second Chapter, that a Mode is that which cannot naturally exist but by

the Substa
with the
easily be
easily co
dent; bu
ceiving ei
capable o
Now v

Idea of S
that Idea
that Mo
dent Me
And ther
Prudent,
which is
the Thin
it would

But h
that wh
may con
Man dre
of that M
respect o
Being un
be Subst
fifth Un

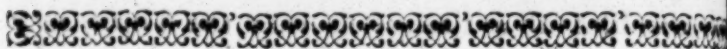
This
five Un
so very
know th
prieties,
to disco
of each
prieties
some L
first sai

the Substance, and which is not necessarily united with the Idea of a Thing; so that the Thing may easily be conceived without the Mode, as we may easily conceive a Man without conceiving him prudent; but we cannot conceive Prudence without conceiving either a Man, or some other intelligent Nature capable of Prudence.

Now when we couple a confused and undetermined Idea of Substance with a distinct Idea of some Mode, that Idea can represent to us all the Things where that Mode occurs; as the Idea of Prudent, all prudent Men; the Idea of Round, all round Bodies: And then this Idea, expressed by a connotative Term, *Prudent*, *Round*, is what makes the fifth Universal, which is called Accident, because it is not essential to the Thing to which it is attributed. For if it were, it would either be Difference or Propriety.

But here it is to be observed, as we said before, that when we consider two Substances together, we may consider one as the Mode of the other. Thus a Man drest, may be consider'd as a Whole, consisting of that Man and of his Cloaths. But *to be clothed*, in respect of that Man, is only a Mode or Manner of Being under which we consider him, tho' his Cloaths be Substances. Therefore *to be drest* belongs to the fifth Universal.

This is enough and more than enough of the five Universals, which are handled in the Schools so very copiously. For it is of very little Service to know that there are Genera, Species, Differences, Proprieties, and Accidents: What is of Use is to be able to discover the true Genus of Things, the true Species of each Genus, their true Differences, their true Proprieties and Accidents. And in this we hope to give some Light in the following Chapters, after having first said something of Complex Terms.



C H A P. VIII.

*Of Complex Terms, and of their Universality
or Particularity.*

A Term sometimes receives the Addition of diverse other Terms, which compose in our Mind a total Idea, of which it often happens that we can affirm or deny what we could not affirm or deny of each of those Terms being separate. For Example, these are Complex Terms, *a prudent Man, a transparent Body, Alexander the Son of Philip.*

This Addition is sometimes made by the Pronoun Relative, as when I say, *A Body which is transparent; Alexander, who was the Son of Philip; the Pope, who is the Vicar of Jesus Christ.*

And it may even be affirmed, that if this Relative is not always expressed, it is always in some manner understood, because it may be expressed, if we please, without altering the Proposition.

For it is the same thing to say a Transparent Body, or a Body which is Transparent.

What is chiefly to be observed in these Complex Terms is, that the Addition made to a Term is of two Sorts; one, which may be called *Explicative*, and the other *Determinative*.

This Addition is called *Explicative*, when it is only designed to denote either what was included in the Comprehension of the Idea of the first Term, or at least what agrees with it as one of its Accidents, provided it agree with it generally and in its full Extent; as if I say, *Man, who is an Animal indued with Reason;* or, *Man, who naturally desires to be happy;* or, *Man, who is mortal.* These Additions are only explicative, be-

cause they
Word Ma
Men; but
kind.

All the
finely in
we say, I
Julius Cæ
Aristotle,
King of P
expressed
ing alrea

The or
Determin
Word re
stand it i

but only
transpare
mal. The
determin

first Term
only a P
Men; th

And t
render a
vidual C

that now
to the c
We

plex Te
pression

The
sed, as

The
express

France
because

not in
cause

cause they do not any ways change the Idea of the Word Man, nor restrain it to signify any particular Men; but only shew what is common to all Mankind.

All the Additions made to those Names, which distinctly mark an Individual, are of this Sort; as when we say, *Paris, which is the greatest City in Europe; Julius Caesar, who was the greatest Captain in the World; Aristotle, the Prince of Philosophers; Louis the XIV. King of France.* For the individual Terms distinctly expressed are always taken in their whole Extent, being already determined as much as they can be.

The other sort of Addition, which may be called *Determinative*, is when what is added to a general Word restrains its Signification, and makes us understand it not for that general Word in its full Extent, but only for a Part of that Extent; as if I say, *the transparent Bodies, the learned Men, a reasonable Animal.* These Additions are not barely explicative, but determinative, because they restrain the Extent of the first Term, by confining the Word Body to signify only a Part of Bodies; the Word Men, only a Part of Men; the Word Animal, only a Part of Animals.

And these Additions are sometimes such, that they render a general Word an Individual, when an individual Condition is added; as when I say, *the Pope that now is;* this determines the general Word Pope to the only and singular *Alexander VII.*

We may also distinguish two other Sorts of Complex Terms; whereof the one is Complex in the Expression, the other in the Sense only.

The first are those that have their Addition expressed, as in all the Examples we have hitherto cited.

The last are those in which one of the Terms is not expressed, but only understood; as when we say in *France, the King,* it is a Term complex in the Sense, because at our pronouncing the Word King, we have not in our Mind the general Idea only which answers to

to that Word, but we mentally join to it the Idea of Louis XIV, the present King of France. There are a vast Number of Terms which hourly occur in ordinary Discourse, which are complex after this manner, as the Name of *Monsieur* in every Family, &c.

There are also some Words which are complex in the Expression in some respect, and the same too in the Sense in another: As when we say, *the Prince of Philosophers*, it is a Term complex in the Expression, since the Word Prince is determined by that of Philosopher; but in respect of *Aristotle*, who is meant by that Word in the Schools, it is complex only in the Sense; since the Idea of *Aristotle* is only in the Mind without being expressed by any Sound which distinguishes him in particular.

All connotative or adjective Terms either are Parts of a Complex Term, when their Substantive is expressed, or are complex in the Sense when it is understood. For, as we said in the 2d Chapter, these connotative Terms denote a Subject directly, tho' more confusedly; and a Form or Mode indirectly, tho' more distinctly. And thus this Subject is only a very general and very confused Idea, sometimes of a Being, sometimes of a Body, which is commonly determined by the distinct Idea of the Form joined thereunto; as *Album* signifies a Thing that has Whiteness, which determines the confus'd Idea of Thing, and confines it to represent only those endued with that Quality. But what is most remarkable in these complex Terms is, that there are some which are determined in Truth to one single Individual, and which nevertheless retain a certain equivocal Universality, which may be called an Equivocation of Error: because tho' all Men are agreed that such a Term signifies but one single thing, yet for want of discerning rightly what that single thing is, apply it some one thing, and some to another; which makes it stand in need of being further determined either by divers

Cir-

Circumstances, or by the Series of the Discourse, in order precisely to fix its Meaning.

Thus the Word *True Religion* signifies but one only Religion, which in Truth is the Catholic, that being the only true one. But because each Nation and each Man believe their Religion to be true, this Word is very equivocal in the Mouth of Men, thro' Error. And if we read in an Historian, that a Prince was zealous for the true Religion, we cannot tell what he means by it, unless we know what Religion the Historian was of: For if he was a Protestant, it means the Protestant Religion: If it were a Mahometan Arabian that spoke thus of his Prince, he would mean the Mahometan Religion; and we cannot judge that the Catholic Religion is intended, unless we knew that the Historian was a Catholic.

The complex Terms which are thus equivocal by Error, are chiefly those that contain Qualities, whereof the Senses are not the Judges, but the Mind only: Whereupon it is no Wonder Men should entertain various Opinions.

If I say for Example, None but Men of six Foot high were listed in *Marius's* Army, this complex Term, Men of six Foot high, would not be liable to be equivocal by Error, because it is very easie to measure whether a Man is six Foot high or no. But had it been said, that none but valiant Men were to be listed, the Term of valiant Men had been much more liable to be equivocal by Error, that is to say, to be ascribed to Men that might be taken for valiant, tho' indeed they were not so.

Terms of Comparison are very apt to be equivocal by Error; *The greatest Geometrician in Paris, the most learned Man, the most cunning, the richest.* For tho' these Expressions are determined by individual Conditions, since but one Man can be the greatest Geometrician in Paris, yet they may easily be ascribed to many, tho' in Truth they agree with one only, because it is very

pro-

probable Men may be divided in their Judgments, and that every one will bestow the Title upon him, who in his Opinion is superior to the rest.

These Forms of Speech, *the Sense of an Author, the Doctrine of an Author upon such a Subject*, are also of this Number ; especially when an Author is so obscure, that it is a Dispute what his Opinion was ; as we see that the Philosophers go together by the Ears daily about *Aristotle's* Opinions, every one endeavouring to pull him over to his own Side. For tho' *Aristotle* can have but one Sense upon one Subject, yet as he is differently understood, these Words, *Aristotle's Opinion*, are equivocal by Error, because every one calls that *Aristotle's* Opinion which he conceives to be his Opinion ; and thus one conceiving one Thing, and another Another, these Words, *Aristotle's Opinion*, upon such a Subject, let them be never so individual in themselves, may be applied to several Things, namely, to all the various Opinions which shall be attributed to him, and they will signify in the Mouth of each Person what that Person conceives to have been that Philosopher's Opinion.

But the better to comprehend wherein consists the Equivocation of these Terms which we call Equivocal by Error, it is necessary to observe that those Words are connotative either expressly, or in the Sense. Now, as we said before, we are to consider it connotative Words the Subject which is directly tho' confusedly expressed, and the Form or Mode which is distinctly tho' indirectly expressed. Thus White denotes a Body confusedly, and Whiteness distinctly. *Aristotle's Opinion* signifies confusedly some Sentiment, some Thought, some Doctrine : and distinctly the Relation of that Thought to *Aristotle*, upon whom it is fathered.

Now when there happens an Equivocation in those Words, is it not properly upon Account of that Form or Mode, which being distinct, is invariable : Nor

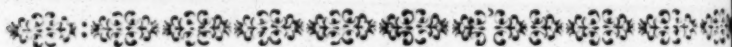
upon Account of the confused Subject, so long as the Subject remains in that Confusion. For, by way of Example, these Words, the Prince of Philosophers, can never be equivocal so long as the Idea is not applied to any individual distinctly known. But the equivocation happens only because the Mind, instead of the confused Subject, often substitutes one distinct and determined, to which we ascribe the Form and Mode. For as Men are of different Opinions in this Question, they may bestow the Title upon divers persons; as formerly *Plato* was meant by the Name of Prince of Philosophers, as *Aristotle* is now.

The Word True Religion not being annexed to the distinct Idea of any particular Religion, but remaining in its confused Idea, is not equivocal, since it then means only that which is indeed the true Religion. But when the Mind has united that Idea of true Religion to a distinct Idea of a certain particular Worship distinctly known, that Word becomes very equivocal, and signifies in the Mouth of each Nation, that Worship which they imagine to be the true.

It is the same with these Words, the Sentiment of such a Philosopher upon such a Matter. For remaining in their Generality, they barely and in general mean the Doctrine which that Philosopher taught in that Matter, as what *Aristotle* taught concerning the Nature of the Soul, *id quod sensit talis scriptor*; and this *id*, that is to say, this Doctrine remaining in its confus'd Idea, without being annex'd to any distinct Idea, the Words are not at all equivocal: But when instead of this confused *id*, of this Doctrine obscurely conceived, the Mind substitutes a distinct Doctrine, a distinct Subject, then, according to the different distinct Ideas so substituted, the Term will become equivocal. Thus *Aristotle's* Doctrine touching the Nature of our Soul is equivocal in the Mouth of *Pomponatius*, who pretends that he was of Opinion it was mortal, and in that of several other Interpreters of that Philosopher, who on the

the contrary pretended he thought it immortal, as was his Masters *Plato* and *Socrates*. From hence it proceeds that Words of this Nature may often signify a Thing to which the Form indirectly expressed was not at all agree. Supposing, for example, that *Philip* was not really the Father of *Alexander*, as *Alexander* himself endeavour'd to make out; the Expression *Son of Philip*, which in general signifies him that was begotten of *Philip*, being applied by Error to *Alexander*, will denote a Person who was not really the Son of *Philip*.

The Words, *the Sense of the Scripture*, being apply'd by a Heretick to an Error contrary to Scripture, will signify in his Mouth, that Error which he believed to be the Sense of the Scripture, and which in that Mistake he called the Sense of the Scripture. Wherefore the Calvinists are ne'er the more Catholic for their protesting that they follow only the Word of God. For this Expression, *the Word of God*, signifies in the Mouth all the Errors which they falsely imagine to be the Word of God.



CHAP. IX.

Of the Clearness and Distinction of Ideas, and of their Obscurity and Confusion.

WE may distinguish in an Idea between Clearness and Distinction, and between Obscurity and Confusion. For we may say an Idea is clear, when it strikes us in a lively manner, tho' it be not distinct. As the Idea of Pain strikes us in a lively manner, and for that Reason may be called clear, and nevertheless is very confused, in that it represents Pain to us, as if it were in the Hand that is hurt, tho' indeed it is only in the Soul.

However, we may say that every Idea is distinct so far as it is clear, and that their Obscurity proceeds only from their Confusion; as only the Sense of Pain that strikes us is clear and distinct too; but what is confused in it (which is, that this Sensation lies in the Hand) is not clear to us.

Admitting, then, that Clearness and Distinction of Ideas are one and the same thing, it is of great Use to examine why some are clear, and others obscure.

But this will be made plainer by Examples than by any other Method; and therefore we will set down the chief of those Ideas that are clear and distinct, and the chief of those that are confused and obscure.

The Idea every Man hath of himself, as of a Thing that thinks, is very clear; and so also is the Idea of all the Dependants upon our Thoughts, namely, to judge, to reason, to doubt, to will, to desire, to perceive, to imagine.

We have also very clear Ideas of extended Substance, and of what is proper to it, as Figure, Motion, Rest. For tho' we may outwardly pretend there is no Body, nor no Figure, (which we cannot feign of the Thinking Substance while we think) nevertheless we cannot persuade ourselves that we do not clearly conceive both Extension and Figure.

We also clearly conceive Being, Existence, Duration, Order, Number, provided we only consider that the Duration of every thing is a Mode or a Manner, under which we behold that Thing so long as it continues to be; and that also Order and Number do not in effect differ from the Things order'd and number'd.

All these Ideas are so clear, that often by endeavouring to explain them with more Perspicuity, and not contenting ourselves with those which we form naturally, we only make them obscure.

We may also say, that the Idea we have, in this Life, of God is clear in one Sense, tho' it be obscure in another, and very imperfect.

It is clear in that it suffices to discover in God a vast Number of Attributes, which we are sure can be found in God only; but it is obscure if compared to that which the Blessed have of him in Heaven; and it is imperfect, in that our Mind being finite, can but very imperfectly conceive an Object that is infinite. But to be perfect, and to be clear, are two different Conditions in an Idea: For it is perfect when it represents to us all that is in its Object, and it is clear when it only represents to us enough to give us a clear and distinct Conception of it.

Confused and obscure Ideas are those which we have of the sensible Qualities, as of Colours, Sounds, Odours, Tastes, Cold, Hot, Weight, &c. as also of our Appetites, of Hunger, Thirst, of bodily Pain, &c. And the Reason why these Ideas are confused is this:

As we were Children before we were Men, and that exterior Things acted upon us, by causing various Sensations in our Soul by the Impressions they made upon our Body; the Soul, who knew that these Sensations were raised in her against her Will, and that she felt them only upon occasion of certain Bodies, as that she felt Heat when she came near to Fire, was not satisfied with judging that there was something without her which caused her to have those Sensations, in which she would not have been deceived; but she looked out further, imagining that what was in those Objects was exactly like the Sensations or Ideas she had upon their Occasion. And from these Judgments she formed to herself Ideas of them, by transferring those Sensations of Heat, Colour, &c. into the Things themselves that are without her. And these are the obscure and confused Ideas which we have of the sensible Qualities, the Soul having

having
true or

And
they l
vaganc
tions o
the ot
Fire, a
or the
placed
fected

But
not in
they a
scorche
Mind,
Hand,
but a S
at any
of the

This
cient P
St. Aug
Pains
chap. 1
Body
because
ma sun
Body
the Sou
she has
the Sou
to Thin
Dolor
& quae
qua tri
nobis n

Having united her own mistaken Judgment to those true ones which Nature had breathed into her.

And as these Ideas are not natural but arbitrary, they have been formed with a very fantastical Extravagance. For tho' Heat and Scorching are two Sensations of the same Nature, only the one weaker, and the other fiercer, yet Heat hath been placed in Fire, and Fire is said to have Heat; but Scorching, or the Pain we feel, if we come too near it, is not placed in the Fire, nor was the Fire ever said to be affected with Pain.

But if Men perhaps have observed, that the Pain is not in the Fire which scorches the Hand, it may be they are still mistaken in believing it is in the Hand scorched by the Fire; whereas indeed it is only in the Mind, tho' it be occasion'd by what is done to the Hand, because the Pain of the Body is nothing else but a Sentiment of Aversion which the Soul conceives at any Movement contrary to the natural Constitution of the Body she is cloathed in.

This has been the Opinion not only of some ancient Philosophers, as of the *Cyrenaics*, but also of *St. Aussin* in several Passages of his Works. The Pains (says he in the 14th Book of the *City of God*, chap. 15.) which are called Corporeal, are not in the Body but in the Soul, which is in the Body, and because of the Body. *Dolores qui dicuntur carnis, anima sunt in carne, & ex carne.* For the Pain of the Body (adds he) is nothing else but an Uneasiness of the Soul, on Account of the Body, and the Antipathy she has to what is done to the Body, as that Pain of the Soul called Sorrow, is the Antipathy our Soul has to Things that fall out contrary to our Inclination. *Dolor carnis tantum modo offensus est anima ex carne, & quedam ab ejus passione dissensus; sicuti anima dolor que tristitia nuncupatur, dissensus est ab his rebus, que nobis nolentibus acciderunt.*

And in his 7th Book upon *Genesis*, chap. 19. he says literally, that the Repugnance the Soul feels at seeing the Action by which she governs the Body disturbed, and hindered by the Irregularity that happens in the Constitution, is what is called Pain. *Cum afflictiones corporis moleste sentit (anima) actionem suam qua illi regendo adest turbato ejus temperamento impediri offenditur, & hac offensio dolor vocatur.*

In Effect, what plainly demonstrates that the Pain which is called Bodily is really in the Soul, not in the Body, is, that the very same Things which give us Pain, when our Mind is upon them, give us none at all when our Thoughts are strongly engaged elsewhere; as appears by the Priest of *Calama* in *Africa*, whom *St. Austin* speaks of in the 14th Book of the *City of God*, chap. 24. who, as often as he pleas'd, could so alienate himself from his Senses, that he seem'd to be dead, and felt no manner of Pain nor only when he was pinched or pricked, but even when he was scorched and burnt. *Qui quando ei placebat ad imitationem quasi lamentantis hominis voces, ita se auscubat in sensibus, & jacebat simillimus mortuo, ut non solum, vellicantes atque pungentes minime sentiret, sed aliquando etiam igne ureretur admoto, sine ullo doloris sensu, nisi postmodum ex vulnere.*

We are further to observe, that it is neither the ill Disposition of the Hand, nor the Motion occasioned therein by the burning, that causes the Soul to feel the Pain; but that this Motion is communicated to the Brain, by means of the small Fibres included in the Nerves, as in Pipes, which are extended like little Strings from the Brain to the Hand, and the other Parts of the Body; so that we cannot move these little Fibres without moving at the same time the Part of the Brain from whence they arise: And for this Reason, if any Obstruction hinders these Fibres from communicating their Motion to the Brain, as in the Palsy, a Man may even see his Hand burnt or cut off, with-

without
which
called
at all
their B
ed from
by an
rainat
Part o
same l
tended
a Cor
it in t
and th
Pain
she di
that M
what
the Pl
Rays,
holdin
And
possibl
mente
to feel
since
Burn
was n
she co
Body
we no
comm
rit, th
Spirit
that l
But
rosity,
the re

without feeling the least Pain: And on the contrary, which seems very strange, a Man may have what is called a Pain in his Hand, tho' he has never a Hand at all, as it very often happens to those who have had their Hands cut off, because the Fibres which extended from the Hand quite up to the Brain being moved by any Fluxion towards the Elbow, where they terminate when the Arm is cut off so far, may stretch the Part of the Brain to which they are fasten'd, in the same Manner as they used to affect it when they extended quite down to the Hand; as the Extremity of a Cord may be moved in the same manner by pulling it in the Middle as by pulling it at the other End; and that is the Reason why the Soul feels the same Pain then, as she felt when she had a Hand, because she directs her Attention to the Place from whence that Motion of the Brain was used to proceed, as what we see in a Looking-glass, appears to us to be in the Place where it would be, if it were seen by direct Rays, that being the most common Manner of beholding Objects.

And this may serve to demonstrate, that it is very possible for a Soul parted from the Body to be tormented by the Fire, either of Hell or Purgatory, and to feel the same Pain as a Man feels when he is burnt, since even when she was in the Body, the Pain of the Burn was in her, and not in the Body, and that it was nothing else than a Thought of Sorrow which she conceived upon Occasion of what passed in the Body to which God had united her. Why then can we not conceive, that the Justice of God may so accommodate some certain Portion of Matter to a Spirit, that the Motion of that Matter may be to that Spirit an Occasion of afflicting Thoughts, which is all that happens to our Soul in bodily Pain?

But to return to confused Ideas: That of Ponderosity, which seems so clear, is no less confus'd than the rest that we have mention'd; for Children seeing

that Stones and all such Things fell down as soon as they were let go out of the Hand, formed from them the Idea of a Thing that falls, which Idea is natural and true, and further also of some Cause to that Fall, which is true likewise. But because they saw nothing but the Stone, and could not conceive what pressed it downwards, they concluded by a rash Judgment, that what they could not conceive did not exist, and that so the Stone fell of itself by an interior Principle with which it was endued, without being forced downwards by any other Power; and to this confus'd Idea, which owes its Birth only to their Error, they have assign'd the Name of Gravity and Ponderosity.

And here they happen'd to make quite different Judgments of Things, whereof one would think they would have judg'd in the same manner. For as they saw Stones that moved downwards towards the Earth, so also they saw Straws move towards Amber, and Bits of Iron or Steel towards the Loadstone. Now they had as much Reason to put a Quality in the Straws, and in the Iron to tend naturally towards Amber, or the Loadstone, as in Stones to tend towards the Earth. However, it did not please them so to do; but they have endued the Amber with a Quality of attracting of Straws, and the Loadstone with that of attracting Iron, which they have called attractive Qualities; as if they could not as easily have endued the Earth, with a Quality of attracting heavy Things. But be this as it will, these attractive Qualities, like Ponderosity, are wholly oblig'd for their Creation to a false Reasoning, which concluded that the Loadstone must of Necessity attract the Iron, because nothing appeared to push the Iron towards the Loadstone; tho' it be impossible to conceive that one Body should attract another, if the Body attracting do not move, and the Body attracted be not fasten'd to it by some Tie.

To these Infant Judgments of ours we may also refer that Idea which represents ponderous and hard Bodies to be more material and solid than light and thin Bodies; which makes us fancy that there is much more Matter in a Box full of Gold, than in another which is full only of Air. For these Ideas proceed only from our having in our Childhood judged of all exterior Things only by the Impressions they made upon our Senses; and so, because hard and ponderous Bodies act much stronger upon us than light and subtile Bodies, we have taken it into our Heads that they contain more Matter; whereas Reason ought to convince us, that since each Part of Matter never takes up more room than its own, an equal Space is always full of an equal Quantity of Matter.

So that a Vessel of a Cubic Foot does not contain more being full of Gold than being full of Air; nay in one Sense it is true, that when it is full of Air it contains more of solid Matter, for a Reason which it would be too long to deduce here.

From this Imagination we likewise derive all the extravagant Opinions of those who thought our Soul, was either a very subtile Air, consisting of Atoms, according to *Democritus* and the *Epicureans*, or an Air inflamed, according to the *Stoics*, or a Portion of celestial Light, according to the ancient *Manicheans* and to *Flud* even in our Days, or a thin Wind, according to the *Socinians*. For none of these could ever persuade themselves that Wood, Stone, or Dirt, was capable of thinking; and therefore *Cicero*, at the same time that he agrees with the *Stoics* in believing the Soul to be a subtile Flame, rejects, as an intolerable Absurdity, the Opinion of its being Earth or gross Air. *Quid enim, obsecro te, terrane tili aut hoc nebulofo aut caliginoso cælo, sata aut concreta esse videtur tanta vis memoria?* But they fancy'd, that by subtilizing this Matter, they render'd it less material, less gross, and less corporeal, and that at length it might

* become capable of Thinking; which is a very ridiculous Notion. For one Matter is not more subtile than another, any further than that being divided into smaller and more agitated Particles, it on the one hand makes a weaker Resistance against other Bodies, and on the other insinuates itself more easily into their Pores. But be it divided or not divided, agitated or not agitated, it is not e'er the less Matter, less Corporeal, or more capable of Thinking; it being impossible to imagine any Relation, that there is between the Motion, or the Figure of subtile or gross Matter, and Thought; or that Matter which did not think while it was in a State of Rest, as the Earth is, or in a moderate Motion like Water, should arrive at the Knowledge of itself by being a little more stirred, or by having two or three Boils given it extraordinary.

This might be carried much further; but this is enough to give a clear Notion of all the other confus'd Ideas, which are most of them owing to some Cause of those we have mention'd.

* The only Remedy for this Inconvenience, is to throw off the Prejudices of our Childhood, and to believe nothing that falls under the Cognizance of our Reason, upon Judgments which we formerly made of them, but by what we judge of them at present. And thus we shall bring ourselves to our natural Ideas; and as for those that are confus'd, we shall retain only what is clear in them, as there is something in the Fire, which is the Cause of my feeling Heat; as all the Things which are called heavy are drove downwards by some Cause; not determining what may be in the Fire to cause that Sensation in me, or what is the Cause of a Stone's falling downwards, unless I have clear Reasons to assure me I am in the right.



CHAP X.

Some Examples of confus'd and obscure Ideas drawn from Ethics.

WE have in the preceding Chapter quoted divers Examples of these confus'd Ideas, which may also be called false, for the Reason we have already given; but because they are all taken out of Physics, it will not be unprofitable to add some others borrow'd from Ethics, the false Ideas formed of Goods and of Evils, being infinite'y more dangerous.

Let a Man have a false or a true, a clear or an obscure Idea of Ponderosity, of the sensible Qualities, and of the Actions of the Senses, he is neither the more happy, nor the more miserable upon that Account; if he is a little more or less knowing in those Things, he is neither the worse nor the better Man. Whatever our Opinion is of all those Things, they will never be other than they are for us; their Being is independent of our Science, and the Conduct of our Life is independent of the Knowledge of their Being: So that every one may refer himself to the vast Scene of Knowledge which will be opened to us in the next Life; and for the most prudent ordering of the Universe, relye upon the Goodness and Wisdom of Him that rules it.

But no Man can excuse himself from forming Judgments upon what is good and what bad, because by those Judgments he must direct his Life, regulate his Actions, and make himself happy or miserable to all Eternity: And as the false Ideas we have of these Things are the Sources of the wrong Judgments we make of them, it is vastly of greater Importance to

apply ourselves to discover and correct them, than to reform those which the Precipitation of our Judgments, or the Prejudices of our Youth, instil into us of the Things of Nature, which are the Object only of a fruitless Speculation.

To lay open all these false Ideas, would be to write a long Treatise of Morality; our Design here is only to give some Examples of the Manner how they are formed by uniting various Ideas which are not united in Truth, whereof Men constitute vain Phantoms which they pursue, and with which they miserably feed themselves all their Lives long.

Man finds in himself the Idea of Happiness and Misery, and this Idea is neither false nor confus'd, so long as it remains general: He hath also Ideas of Liveliness, of Greatness, of Baseness, of Excellence; he pursues Happiness, and flies Misery; he admires Excellence, and despises Baseness.

But the Contamination of Sin which separates him from God, in whom alone he could have found his real Happiness, and to whom alone he ought consequently to affix the Idea of it, makes him annex that Idea to Numbers of Things into the Love of which he has precipitated himself; in order to seek in them the Felicity he has lost; and by this Means he has formed to himself a vast many false and obscure Ideas by representing to himself all the Objects of his Love, as Enjoyments capable of making him happy, and the Obstacles to the Possession of them, as what may make him miserable. He has also lost by Sin his true Greatness and real Excellence; so that to love himself, he is forced to fancy himself quite another thing from what he is, to cover from his own Eyes his Wretchedness and Poverty, and to comprehend, in the Idea of himself, a vast many Things entirely foreign to it, in order to make it look great and august; and now behold the common Series of these false Ideas.

The first and chief Bent of the Desire is to the Pleasure of the Senses which arises from certain exterior Objects; and as the Soul perceives that this Pleasure which she is so fond of, proceeds from those Things, she immediately affixes to those Things the Idea of Goods, and that of Evils to those which deprive her of them: Afterwards observing that Riches and humane Power are the usual Means to attain those Objects of Desire, she begins to look upon them as extraordinary Goods, and consequently believes the Rich and the Great who possess them, the happiest, and those that want them the most wretched of Men.

Now as there is a certain Excellence in Happiness, she never separates those two Ideas, and those she fancies Happy, she always looks upon to be Great, and those she fancies poor and wretched to be Little. And this is the Reason of the Contempt wherewith Men look down upon the Poor, and of the Esteem wherewith they look up to the Rich. These Judgments are so unjust and false, that *St. Thomas* believes this Esteem and Admiration paid to the Rich, is what is so severely condemned by *St. James* the Apostle, when he forbids giving a higher Seat to the Rich than to the Poor in the Congregations: For, as this Passage cannot be literally understood to forbid us paying certain exterior Duties rather to the Rich than to the Poor, since Order in Society, which Religion does not intend to disturb, allows of those Preferences, and that the Saints themselves have prais'd them; it is very probably meant of that interior Preference, which makes the Poor be imagined to lie under the Feet of the Rich, and the Rich to be exalted infinitely above the Heads of the Poor.

But tho' these Ideas, and the Judgments arising from them, are false and unreasonable, they are nevertheless common to all Men that have not corrected them, because they are produced by the Desire with which they are all infected. And thence it happens that we do not

form

form only these Ideas of the Rich, but knowing that others have the same Motions of Esteem and Admiration for them, we consider their Condition surrounded not only by all the Pomp, and all the Conveniences joined to it, but also by all those advantageous Judgments formed of the Rich, and which we know by the ordinary Discourse of Men, and by our own Experience.

This Phantom, made up of all the Admirers of the Great and Rich, who are conceived surrounding their Throne, and beholding them with inward Sentiments of Fear, Respect, and Awe, is what indeed is the Idol of the Ambitious, for which they take so much Pains, and expose themselves to so many Dangers.

And to prove that this is what they adore and aim at, we need only consider, that if there were but one Thinking Man in the World, and that all the rest of the Creatures endued with a humane Shape were only moving Statues, and that further, this one rational Man very well knowing that all those Statues, which were exteriorly like him, were totally destitute of Thought and Reason, should nevertheless have the Art to move them by some certain Springs, and to employ them in all the Services that Men are capable of; we may reasonably believe he would sometimes divert himself with the various Motions he might impress upon those Statues; but certainly he would never place his Glory, and his Satisfaction in making them pay him exterior Respects, nor take Pride in their Obediences; nay, that he would grow weary of them as soon as we should grow weary of a Puppet-Show: So that in general he would be contented with employing them barely in his necessary Occasions, without desiring to get together a greater Number than he wanted for his Use.

It is not therefore the mere exterior Effects of Mens Obedience, distinct from the View of their Thoughts, that are the Object of the Love of the Ambitious.

Ambitious
not over
Impression
they make

This sho
and empty
vain Men
with Prais
other Thin
distinguish
Motions a
For where
of Love
quence, t
the Ambit
of Respec
Ideas con
may be lo
Thus bot
ness in t
chuses th

Nothing
toms, m
shake th
main Ob

That
which c
greatest
fect of
chimeric
Men do
to face I
in a Co
more th
Beds.

upon fo
Hand u
and of

Ambitious: They covet the Dominion over Men, and not over Statues, and their Pleasure consists in the Impressions of Fear, Esteem, and Admiration, which they make upon the Mind of others.

This shews that the Idea they are full of, is as vain and empty as that of those who are properly called vain Men; which are, they that feed themselves with Praises, Acclamations, Elogiums, Titles, and other Things of that Nature. The only thing that distinguishes one from t'other, is, the Difference of Motions and Judgments which they delight in raising: For whereas the Vain are fond of stirring up Motions of Love and Esteem for their Learning, their Eloquence, their Wit, their Dexterity, their Goodness; the Ambitious aim at occasioning Motions of Terror, of Respect, and Subjection to their Greatness, with Ideas conformable to these Judgments, whereby they may be looked upon to be terrible, exalted, powerful. Thus both the one and the other Place their Happiness in the Thoughts of other People, only the one chuses this Thought, and the other that.

Nothing is more common than for these vain Phantoms, made up of the false Judgments of Men to shake the greatest Undertakings, and serve as the main Object of the Conduct of a whole Life.

That Valour, so highly esteemed in the World, which can lead the Brave into the Mouth of the greatest Dangers, is often nothing more than the Effect of the Application of their Mind to those empty chimerical Images wherewith it is crowded. Few Men do seriously despise Life: and those who seem to face Death with so much Audacity in a Breach or in a Conflict, do tremble like other Men, and often more than other Men, when she attacks them in their Beds. But what produces the Generosity they shew upon some Occasions, is, that they reflect of the one Hand upon the Railleries that pass upon Cowards, and of the other upon the Praises given to the Valiant.

liant; and this double Phantom, which totally possesses them, diverts them from the Consideration of Dangers, and of Death.

It is for this Reason that those who have Caution believe that the Eyes of the World are upon them, being then more taken up with those Judgments, and more valiant and more daring. Thus Captains have generally more Courage than common Soldiers, and Gentlemen, more than those who are not so; because having more Honour to lose and to win, their Minds are more strongly bent upon it. The same Labour said a great Leader, are not equally painful to a General, and to a common Soldier; because a General is supported and encouraged by the Judgments of a whole Army, the Eyes of which are all upon him; whereas a common Soldier has nothing to encourage him but the Hopes of a small Reward, and the poor Reputation of being a good Soldier, which seldom reaches beyond the Company he belongs to.

What can be the Aim of those Men that build magnificent Houses far above their Condition and Fortune? Bare Conveniency is not what they consult in so doing; excessive Magnificence rather hinders than promotes *That*, and it is certain too, that if they were alone in the World, they would never give themselves so much Trouble; neither would they do it if they believed that all who should see their Houses would only look upon the Master with Contempt. It is therefore for others they labour, and for the Approbation of Men: They imagine that all who view their Palaces, must be filled with Motions of Respect and Admiration towards him who enjoys them; and thus they figure themselves to their own Mind, seated in the midst of their Palaces, surrounded by a Crowd of People looking up to them from below, and calling them Great, Powerful, Happy, Magnificent; and it is for the Sake of this Idea

which

which wh
vast Exper

Why, t

a Number

Service th

an Advan

the Idea of

and the T

will be for

the Vanit

If we c

tions, all

which are

what rend

and Fatig

ally offer

Respect,

in others

On th

most Peo

of Men,

Judgmen

remains

usual N

withal t

for the l

insuppo

Wife M

the Goo

living

whom h

but Chr

because

it at th

of emp

the Hea

Sight a

which wholly possesses them that they make those vast Expences, and take all that Pains.

Why, think we, are Coaches loaded with so great a Number of Lacquies? It is not for the Sake of the Service they are of; they are a more Hindrance than an Advantage; but it is to stir up in the Beholders the Idea of its being a Man of Quality that passes by, and the Thoughts of this Idea, which they imagine will be formed upon the Sight of their Coaches, tickles the Vanity of those to whom they belong.

If we examine in the same manner all the Conditions, all the Employments, and all the Professions, which are esteemed in the World, we shall find, that what renders them agreeable, and alleviates the Pains and Fatigues which attend them, is, that they generally offer to the Mind the Idea of the Motions of Respect, Esteem, Fear, Admiration which they raise in others towards us.

On the contrary, what makes Solitude irksome to most People, is, that separating them from the Sight of Men, it also separates them from that of their Judgment, and of their Thoughts. Thus their Heart remains empty and hungry, being deprived of its usual Nourishments, and not finding in itself where-withal to satisfy its own Craving. And for this Reason the Pagan Philosophers believed a solitary Life so insupportable, that they did not scruple to say their Wise Man would not purchase the Endowments of all the Goods both of Body and Mind, at the Price of living always alone, and of having no Body with whom he might discourse of his Happiness. Nothing but Christianity is able to make Solitude agreeable, because as it teaches Men to despise those vain Ideas, it at the same time gives them other Objects capable of employing the Mind, and more worthy of filling the Heart, and for which they have no need of the Sight and Commerce of Men.

But

But it is to be observed, that the Desire of Men does not properly terminate in knowing the Thoughts and Sentiments of others; but that they make use of those Sentiments only to heighten and improve the Idea they have of themselves, by joining and incorporating with it all those foreign Ideas, and imagining thro' a gross Delusion, that they are really so much the greater, because they are in a great House, and are admir'd by more People; tho' all these Things which are extrinsical to them, and all these Thoughts of other People, not adding in the least to them in Fact, do leave them as poor and miserable as they were before.

By this Hint we may discover what it is that makes Men pleas'd with several Things, which have nothing in themselves that could divert and delight them: For the Reason of the Pleasure they take in them is, that the Idea of themselves offers itself to them thereupon greater than usual, by means of some vain Circumstance join'd to it.

We take Pleasure in recounting the Dangers we have gone thro', because upon those Accidents we form an Idea which represents us to ourselves either as being prudent. or particul'ar'y favour'd by God. We love to talk of Sickneses of which we are cured, because we represent ourselves to our own Mind, as having abundance of Strength to resist the Attacks of the greatest Distempers.

We love to get the better in every thing; even in Plays depending upon Chance, wherein Skill is of no Service, tho' we play for nothing, because we join to our Idea that of Happy. We imagine Fortune has made us her Choice, and that she favour'd us merely upon account of our Merit. We even conceive this pretended Happiness to be a permanent Quality, which gives us Reason to hope for the like Successes for the future; and therefore there are some People that Gamesters chuse for their Partners before others; which

A
which is ex
have been l
fore probabl
one who h
Thus the
has in effect
toms, which
and those
like the re
alone who
of Eternity
rable Object
Nothingne

of another
Discou
Words

WE
un
press our
Words in
ther the
the most
Thought
For it
have oft
neverthe
them; a
Virtue,
vine; a
the fam

which is extremely ridiculous: For tho' a Man may have been lucky to such a Moment, yet it is not therefore probable he should be so the next, any more than one who has had the worst Luck in the World.

Thus the Mind of those who love only the World, has in effect for its Object nothing but vain Phantoms, which most wretchedly amuse and possess it; and those that are held the wisest, feed themselves, like the rest, with Dreams and Delusions. Those alone who direct their Life and Actions to the Things of Eternity can be said to have a solid, real, and durable Object; and all others are fond of Vanity and Nothingness, and pursue Falsity and Error.

CHAP. XI.

Of another Cause of Confusion in our Thoughts and Discourse; which is, that we affix our Ideas to Words.

WE have already said, that the Necessity we are under of making use of exterior Signs to express our Thoughts, causes us to affix our Ideas to Words in such a manner, that we often consider rather the Words than the Things. Now this is one of the most usual Causes of the Confusion of our Thoughts, and of our Discourse.

For it is to be observed, that tho' different Men have often different Ideas of the same Things, they nevertheless make use of the same Words to express them; as, the Idea which a Pagan Philosopher has of Virtue, is not the same with that of a Christian Divine; and yet each expresses this Word Idea by the same Word, Virtue.

Further,

Further, Men in different Ages have consider'd the same Things in very different Manners, and yet have always collected all those Ideas under one same Name, so that upon the Pronunciation of that Word, one is easily confounded, taking it sometimes according to one Idea, and sometimes according to another. For Example, Man being convinced there was in him something, be it what it would, that was the Occasion of his Nourishment and of his Growth, call'd that Thing *Soul*, and stretch'd that Idea to what was of the like Use not only in Animals, but even in Plants. And again, finding that he thought, he also applied the same Name of Soul to that which was in him the Principle of Thinking. From whence it has happen'd, that by this Likeness of the Name, he has taken for the same Thing the Principle of Thinking, and the Occasion of the Nourishment and Growth of his Body. In the same manner, the Name of Life is equally given to that which is the Cause of the Operations of Animals, and to that which makes us think, which are two Things entirely different.

There is also abundance of Equivocation in the Words *Sense* and *Sensations*, even when they are only taken for some one of the five bodily Senses. For generally there are three Things done in us when we use our Senses; as, when we see any thing: 1. Certain Motions are made upon the corporeal Organs, as in the Eye and Brain. 2. Those Motions give our Soul Occasion to conceive something; as when in consequence of the Motion made on our Eye by the Reflection of the Light in the Drops of Rain opposite to the Sun, the Soul conceives Ideas of Red, of Blue, and of Orange-colour. The 3d is the Judgment we make of what we see, as of the Rain-bow to which we ascribe those Colours, and which we conceive to be of a certain Bigness, of a certain Figure, and at a certain Distance. The first of these three Things is solely in the Body, the other two are only in the Soul, tho' occasion'd

A
sion'd by
comprehend
the same N
ght, Hear
the Ear hear
ing to the M
ent that t
which strike
which judg
at we hav
and full in
am. And
thought w
f what pa
to this Sig
oul and n
and after
unc quide
fullus sen
as, ad am
tepe aut c
ique integ
us; ut f
ire nonea
the Word
the last of
s, of the
of the P
pass'd in
are decei
Water, a
two Foot
neither I
bodily C
Soul, wh
whole E
concludi
two Foo

tion'd by what passes in the Body. And yet we
 comprehend all the three, tho' so widely different, by
 the same Name of *Sense*, and of *Sensations*, or of
Sight, Hearing, &c. For when we say the Eye sees,
 the Ear hears, this cannot be understood only accord-
 ing to the Motion of the bodily Organ, it being evi-
 dent that the Eye has no Perception of the Objects
 which strike upon it, and that it is something else
 which judges of them. On the contrary, it is true,
 that we have not seen a Person that stands before us,
 and full in our Eyes, unless we have reflected upon
 him. And then the Word *Sight* is taken for the
 Thought which is formed in our Soul in consequence
 of what passes in our Eye and Brain: And according
 to this Signification of the Word *Sight*, it is the
 Soul and not the Body that sees, as *Plato* maintains,
 and after him *Cicero*, in these Words: *Nos enim ne-
 cunc quidem oculis cernimus ea quæ videmus. Neque enim
 nullus sensus in corpore. Via quasi quædam sunt ad ocu-
 los, ad aures ad nares à sede animi perforatæ; itaque
 sepe aut cogitatione aut aliqua vi morbi impediti apertis
 etque integris & oculis & auribus, nec videmus nec audi-
 mus; ut facile intelligi possit, animum & videre & au-
 dire non eas partes quæ quasi fanestræ sunt animi.* Lastly,
 the Words *Sense, Sight, Hearing, &c.* are meant of
 the last of the three Things before-mentioned, that
 is, of the Judgments our Soul makes in consequence
 of the Perceptions she had upon Occasion of what
 passed in the bodily Organs, when we say the Senses
 are deceived; as when we see a Stick crooked in the
 Water, and that the Sun does not appear to be above
 two Foot diameter: For it is certain there can be
 neither Error nor Falsity in whatever is done in the
 bodily Organ, nor in the mere Perception of the
 Soul, which is only simple Conception; but that the
 whole Error proceeds only from our judging amiss, in
 concluding, for Example, that the Sun is not above
 two Foot diameter, because its great Distance makes
 that

✓ that the Image formed of it in the Bottom of our Eye is much of the same Bigness as that which would be formed there by an Object of two Feet in Size placed at a certain Distance more proportionable to our usual Stretch of Sight. But having made these Judgments even from our Infancy, and that we are used to them, that at the same Instance we behold the Sun, we presently, without any previous Reflection, ascribe it to the Sight, and say, that Objects appear great or little in Proportion to the Greatness or Littleness of their Distance from us, tho' it is the Mind, and not our Eye that judges of their Greatness or Smalness.

All Languages are full of vast Numbers of Words like each other; which tho' they have the same Sound, are yet Signs of Ideas totally different.

But we are to remark, that when an equivocal Name signifies two Things, which have no Relation to one another, and which Men have never confounded in their Thoughts, it is then almost impossible to make Mistakes in them, or that they should be the Cause of any Error; as no Body endued with but a little common Sense can be deceived by the Equivocation of the Word *Ram*, which signifies an Animal, and a Sign of the Zodiac. Whereas, when the Equivocation proceeds from the Error of Men themselves, who have thro' Ignorance, confounded different Ideas, as in the Word *Soul*, it is very difficult to get over the Perplexity, because we suppose that they who first made use of these Words did perfectly well understand them; and thus we often content ourselves with pronouncing them, without ever examining whether the Idea we have of them is clear and distinct; and we ever attribute to what we call by one same Name, that which will agree only with the Ideas of Things incommensurable, without perceiving, that this only proceeds from our having confounded two different Things under one Name.

C H A P. XII.

the Remedy of the Confusion which arises in our Thoughts and Discourse from the Confusion of Words; wherein is laid down the Necessities and Usefulness of defining the Words we make use of, and the Difference between the Definition of Things, and the Definition of Names.

THE best Way to avoid Confusion of the Words which are to be found in the common Language, is not to make a new Language and new Words, which should be affixed only to such Ideas as we would have them express. But it is not necessary to make new Sounds for this purpose, because we may employ those which are already in Use, only by looking upon them to have no Signification at all at present, and so giving them that which we desire they should have, by describing in other plain Words, not liable to the least Equivocation, the Idea to which we would apply them. As, for Instance, if I would say that our Soul is immortal, the Word Soul being equivocal, as we have already shewed, will easily produce Confusion in what I shall be about to say. Therefore, to avoid it, I will look upon the Word Soul as if it were a Sound utterly destitute at present of any manner of Sense, and will apply it only to that which is in us the Principle of Thought, saying, *I call that in us which is the Principle of Thought.*

This is what is called the Definition of Name, *de nomine*, which the Geometers make such good use

{ use of, but which must be carefully distinguished from the Definition of Thing, *definitio rei*.

For in the Definition of Thing, as, for Instance, these, *Man is a reasonable Creature*, *Time is the Measure of Motion*, we leave to the Term defin'd, which *Man*, or *Time*, its ordinary Idea, wherein we are also contain'd other Ideas, as *Reasonable Creature* or *Measure of Motion*; whereas in the Definition of Name, as we have already said, we regard only the Sound, and afterward determine that Sound to be the Sign of an Idea, which we describe by other Words.

Care must also be taken not to confound that Definition of Name, which we here speak of, with that mentioned by some Philosophers, who by it understand the Explanation of what a Word signifies according to the common Use of a Language, or according to its Etymology. This we may treat elsewhere. But here, on the contrary, we regard only the particular Use to which he that defines a Word would have it understood for the right conceiving his Thought, without troubling himself whether others take it in the same Sense.

And from hence it follows, 1. That Definitions of Names are arbitrary, and that those of Things are not so. For every Sound being in itself and naturally indifferent to signify all Sorts of Ideas, I may form a particular Use, and provided I give Notice of it, I determine a Sound to mean only one certain Thing without the least Mixture of any other. But it is quite otherwise with the Definition of Things; for it does not depend upon the Will of Men, that Ideas shall include whatever they would have them include; so that if in defining them we ascribe to them Ideas any thing which they do not contain, we fall into evitable Error.

Thus (to give an Example of both) if stripping the Word *Parallelogram* of all manner of Signification, I apply it to signify a Triangle, I may lawfully do

and I commit no Error in it, provided I take it in that Sense only; and then I may say, a Parallelogram has three Angles equal to two Right Angles; But if giving to this Word its usual Signification and Idea, which is to signifie a Figure whose Sides are parallel, I should say, that a Parallelogram is a Figure of three Lines; being then a Definition of a Thing, it would be utterly false, since it is impossible a three-lin'd Figure should have its Sides parallel.

In the 2d Place it follows, that Definitions of Names cannot be contested, even for this Reason, that they are arbitrary. For you cannot deny that a Man has given to a Sound the Signification he avers he has given it; nor that it has that Signification in the Use that Man makes of it, after he has given us Notice thereof: But as to the Definitions of Things, we often may contest them, since they may be false, as we have already shewn.

It follows, 3dly, that every Definition of Name, since it is not contestible, may be taken as a Principle; whereas Definitions of Things can by no means be taken as Principles, but are in fact Propositions which may be deny'd by those who think them obscure, and consequently, like other Propositions, are to be proved, and not supposed, unless they be self-evident, as Axioms are.

What I just now said, that the Definitions of Name may be taken as a Principle, does however require some Explanation. For this is true only because we are not to contest that the Idea intended may not be called by the Name given to it; but nothing is from thence to be concluded to the Advantage of that Idea, nor are we merely, because a Name has been given it, to believe that it signifies something real: For (by way of Example) I may define the Word *Chimera*, saying, I call *Chimera* that which implies Contradiction, and yet it will not follow from thence that a *Chimera* is really something. In like manner,

manner, if a Philosopher says to me, I call Ponderosity the interior Principle, which makes a Stone descend without any compulsive Violence; I will not contest this Definition; on the contrary I will receive it willingly, because it lets me clearly into his Meaning: But I will deny that what he understands by the Word Ponderosity is any thing real, because there is no such Principle in Stones.

I was willing to explain this at length, because there are two great Abuses committed in the common Philosophy in this Point. The first is to confound the Definition of the Thing with the Definition of the Name, and to ascribe to the former, what belongs only to the latter; for having made at Pleasure a hundred Definitions, not of Name but of Things, all false, and which do not at all explain the true Nature of the Things, nor the Ideas we naturally have of them; they afterwards expect we should look upon those Definitions to be Principles which no Body can contradict; and if any Man denies them, as they very justly may be denied, they pretend that such a Man does not deserve to be argued with.

The second Abuse is, that hardly ever making use of Definition of Names to remove their Obscurity and fix them to certain Ideas clearly described, they leave them in their Confusion; whence it happens that most of their Disputes are only Disputes about Words; and further, that they instance what is clear and true in the confus'd Ideas to establish what is obscure and false in them; which would easily be discover'd if they had defin'd the Names. The Philosophers generally believe, that the clearest Principle in the World is, that Fire is hot, and that a Stone is heavy, and that it would be Madness to deny it; and indeed they may impose this upon every Body, as long as the Names are not defined, but upon defining them, it will quickly appear whether what they advance is clear or obscure. For we are to ask them

what the
Heavy?
mean that
and by H
descend;
be mad w
heavy: B
has in itse
to ourselv
which has
it fall tow
by any thi
them, tha
a Stone he
secure thin
need clear
of Heat,
but it is b
it like to
too it i
when we
falls down
by someth
Thus u
distinct N
y dispute
and anoth
common l
But be
which is,
Thing, u
note it.
specially
of Words
full Def
the Idea c
Word, w
the rest.

what they mean by the Word Hot, and the Word Heavy? If they answer, that by Hot they only mean that which causes in us the Sensation of Heat, and by Heavy that which not being held up will descend; they have good Reason to say that he must be mad who denies that Fire is hot, and a Stone heavy: But if they understand by Hot that which has in itself a Quality like to that which we imagine to ourselves when we feel Heat, and by Heavy that which has in itself an interior Principle, which makes it fall towards the Center, without being pushed on by any thing whatever; it will then be easy to shew them, that to deny that in such a Sense Fire is hot and a Stone heavy, is not to deny a clear, but a very obscure thing, not to say a very false one; for it is indeed clear, that Fire causes us to have the Sensation of Heat, by the Impression it makes upon our Body; but it is by no means clear, that Fire has any thing in it like to what we feel when we are near Fire. And so too it is very clear, that a Stone falls downwards when we let it drop; but it is not at all clear that it falls downwards of itself, without being pushed on by something else.

Thus useful is the Definition of Names to give a distinct Notion of any Point, that we may not foolishly dispute about Words which one takes in one Sense, and another in another, as is so often done even in common Discourse.

But besides this Benefit, there is also another, which is, that often we cannot give a clear Idea of a Thing, unless we make use of several Words to describe it. Now it would be tedious and impertinent, especially in Books of Science, to repeat a long Train of Words every time. Therefore, having once given a full Description of the Thing in all those Words, the Idea conceived is afterwards annexed to one single Word, which by that Means supplies the Place of all the rest. Thus, having comprehended that there are

Numbers which may be divided into two equal Numbers; to avoid the frequent Repetition of all those Terms, one Name is given to that Propriety, saying I call every Number which is divisible into two equal Numbers, an *even Number*. This shews, that every time a Word already defin'd is used, the Definition must mentally be substituted in the room of the Defined; and this Definition must be so present, that so soon as ever the *even Number*, for Instance, is named, it must immediately be understood that thereby is meant that which is divisible into two equal Numbers; and those two Things must be so inseparably joined together in the Thought, that so soon as ever one is expressed, the other must offer itself to the Mind. For those who define the Terms, as do the Geometers, do it only to shorten the Discourse, which so many frequent Circumlocutions would render distasteful. *Ne assidue circumloquendo moras faciamus*, as St. *Austin* says; but they do not practise it to abridge the Ideas of the Things of which they treat, because they believe the Mind will supply the full Definition to the shortened Terms, which they use only to avoid the Perplexity which the Multitude of Words would produce.

Thomas Smith's Book of Rhetorick

C H A P. XIII.

Useful Observations touching the Definition of Names.

AFTER having explain'd the Nature, Use, and Necessity of Definitions of Names, it will not be from the Purpose to make some Observations upon the Manner of employing them, that they may not be abused.

The first is, that we must not undertake to define all Words, because that would often be of no manner of Use, and even impossible to be done. I say it would

would often be of no Use to define certain Names: For when the Idea Men have of any thing is distinct, and that all who understand a Language from the same Idea at hearing a Word pronounced, it would be useless to define it, since the Purpose of Definition is already answered, in that the Word is annexed to a clear and distinct Idea. It is thus in such Things as are very simple, whereof all Men have naturally the same Idea, so that the Words by which they are signified are understood in the same Sense by all that use them; or if there is at any time some Obscurity in them, their chief Attention is sure nevertheless to fall upon what is clear; and thus they who use them only to express the clear Idea, need not at all fear that they shall not be understood. Such are the Words *Being, Thought, Extension, Equality, Duration or Time*, and the like. For tho' some may obscure the Idea of Time by divers Propositions which they form of it, which they call Definitions, as, that Time is the Measure of Motion according to Anteriority and Posteriority; yet they themselves do not rest in this Definition when they hear Time mentioned, and conceive nothing more of it than other People naturally do. And thus the Learned and the Ignorant understand the same Thing, and with the same Ease, when they are told, that a Horse travels a League in less Time than a Tortoise.

I say further, that it would be impossible to define all Words: For to define a Word, we have a Necessity for other Words which may describe the Idea to which we would affix that Word; and if we would again define the Words which we use in the Explication of that former, we should have a Necessity for other, and so on *ad infinitum*. It is therefore absolutely unavoidable to rest in some primitive Terms which there is no Occasion to define; and it would be as great a Fault to go about to define too much, as not to define enough, because both ways lead into the Confusion, which it is the Design to avoid.

The second Observation is, that we should not change the Definitions already received when we have nothing to object against them; for it is always easier to make a Word understood when Custom has already affixed it to an Idea, at least among the Learned, than when we are to annex one anew to that Idea, and to unloose it from some other Idea with which it used before to be joined. Wherefore it would be a Fault to change the Definitions received by the Mathematicians, unless some one be perplexed and not clearly explicative of the Idea, as that of the Angle and of Proportion may be in *Euclid*.

The third Observation is, that when we are obliged to define a Word, we ought to comply with Custom as much as we can, in not giving Words a Sense too remote from what they carry already, nor one contrary to their Etymology; as to say, I call Parallelogram a Figure terminated by three Lines; but in general to be contented with stripping a Word which has two Senses of one of those Senses, in order to affix it solely to the other. Thus Heat signifying in common Use both the Sensation we have, and a Quality we imagine in the Fire exactly like what we feel; to avoid this Ambiguity, I may use the Name of Heat, applying it only to one of these Ideas, and withdrawing it from the other; as if I say, *I call Heat the Sensation I have when I come near the Fire*; giving to the Cause of this Sensation either a Name wholly different, as *Ardor*, or *Burning*, or the same Name, with some Addition, that may determine it, and distinguish it from Heat taken from Sensation, as to say *Virtual Heat*.

The Reason of this Observation is, that Men having once annexed an Idea to a Word, do not easily separate them again; and thus their first Idea always returning, soon makes them forget the new one which you would give them in defining that Word; so that it would be easier to accustom them to a Word which

signified

signified
terminate
vest the V
whose op
by a Figu

This is
of all th
changing
mention,
others wh
have no r
join them
into ridic
Man, wh
nine Dist
it, had be
of Lead,
was grave
the Chan
that Plan
between
tween th
Mark by
Effects, a

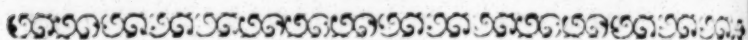
But w
the Chyr
cred My
serve as
that som
to apply
that they
Holy Nat
which he
Light, to
if we wi
at the bl
the Phil
dies, ina

signified nothing at all, as to say, *I call Bara a Figure terminated by three Lines*, than to bring them to dissect the Word *Parallelogram* of the Idea of a Figure whose opposite Sides are Parallels, to make it signify a Figure whose Sides can never be parallel.

This is a Fault which may be laid to the Charge of all the Chymists, who have taken Delight in changing the Names of most of the Things they mention, without the least Benefit, and to give them others which already signify different Things, which have no real Relation to the new Ideas to which they join them. This has gone so far as to lead some People into ridiculous Ratiocinations, as is that of a certain Man, who imagining that the Plague was a Saturnine Distemper, pretended that Persons infected with it, had been cured by hanging about their Necks a Bit of Lead, which the Chymists call *Saturn*, whereon was graved of a *Saturday*, which is also called *Saturn*, the Character which the Astronomers use to denote that Planet; as if arbitrary and groundless Relations between the Lead and the Planet of *Saturn*, and between the same Planet and *Saturday*, and the little Mark by which it is characteriz'd, could produce real Effects, and work the Cure of Distempers.

But what is most insufferable in this Gibberish of the Chymists, is their Prophanation of the most sacred Mysteries of Religion, in reaching that they serve as a Veil to their pretended Secrets; insomuch that some have gone to that Height of Impiety, as to apply what the Scripture says of true Christians, that *they are the Chosen Race, the Royal Priesthood, the Holy Nation, the People which God hath purchased, and which he hath called from Darkness into his wonderful Light*, to the Chimerical Fraternity of Rosicrucians, who if we will take their Words, are Sages that are arrived at the blessed Immortality, having found a Way by the Philosopher's Stone to fix their Souls to their Bodies, inasmuch (quo' they) as there is no Body more

fixed and more incorruptible than Gold. These, and a great many more of the like Dreams, may be found in *Gassendi's Examination of Flud's Philosophy*, which shews that no Character of the Mind is more distemper'd than that of those enigmatical Writers, who imagine that Thoughts not at all solid, not to call them false and impious, will pass for extraordinary Mysteries when cloathed in Forms of Speech unintelligible to ordinary Readers.



C H A P. XIV.

Of another Sort of Definitions of Names, to denote what they signify in common Use.

ALL that we have hitherto said of Definitions of Names, is to be understood only of those where in an Author defines the Words he in particular uses; and this is what makes them free and arbitrary, because every one may use what Sound he pleases to express his Ideas, provided he gives Notice that he will use such a Sound. But as Men are Disposers only of their own Language, and not of other People's, every one has indeed a Right to make a Dictionary for himself, but he has no Right to make one for others, nor to explain their Words by the particular Significations he has affixed to those Words. For which Reason, when our Design is not barely to relate in what Sense we take a Word, but that we pretend to explain that in which it is usually taken, the Definitions given of it are by no Means arbitrary; but they are ty'd down and restrain'd to represent not the Truth of the Things, but the Truth of the Custom, and they are to be reckon'd false, if they do not truly relate that Custom, that is to say, if they do not join to Sounds the same Ideas which are joined to them, by the ordinary Custom of those that use them.

them. And this shews also that these Definitions are not at all exempt from being contested, since daily Disputes arise upon the Signification, which Custom assigns to Terms.

Now tho' these Sorts of Definitions seem properly to fall to the Share of Grammarians, since it is they that make Dictionaries, which are nothing else but the Explication of the Ideas which Men have agreed to affix to certain Sounds: Nevertheless several Reflections may be made upon that Subject, of great Use to the Exactness of our Judgments.

The first, which serves as a Foundation to the rest, is, that Men do not often consider the whole Signification of Words, that is to say, that Words do often signify more than they seem to do; and that when we would express the Signification of them, we do not represent the whole Impression they make upon our Mind.

For to signify, in a Sound either pronounced or written, is only to excite in our Mind an Idea annexed to that Sound, by striking upon our Ears or Eyes. Now it often happens that a Word, besides the principal Idea, which is looked upon to be the proper Signification of that Word, does also excite several other Ideas, which may be called Accessory, of which we take little Notice, tho' the Mind receives the Impression of them.

For Instance, if one Man says to another, *You Eye*, and that Notice is taken only of the principal Signification of that Expression, it is the same Thing as if he said to him, You know the contrary of what you affirm. But besides this principal Signification, these Words carry along with them in Custom an Idea of Contempt and Affront, and they make us believe that he who says them to us does not care how he abuses us: and this makes them injurious and offensive.

Sometimes these accessory Ideas are not annexed to the Words by the common Use, but are joined to them only by him that uses them. And these pro-

perly are such as are excited by the Tone of the Voice, Air of the Face, Gestures, and by the other natural Signs which affix to our Words an infinite Number of Ideas, which diversify, change, diminish, increase their Signification, by joining these to the Image of the Motions, Judgments, and Opinion of the Person speaking.

And therefore, if he who said that we are to suit the Tone of the Voice to the Ears of him that we are talking with, did thereby mean, that it was enough if he spoke loud enough to be heard, he was unacquainted with one Part of the Use of the Voice, the Tone often signifying as much as the Words themselves. There is one Voice for Instruction, another for Flattery, another for Reprehension: Sometimes People are willing that their Voice should not only just reach the Ears of those they speak to, but that it should pierce and stun them; and hardly any Man would be pleased if a Footman that he is chiding a little loudly, should answer, Sir, speak lower, I hear you plain enough; because the Tone makes a Part of the Reprimand, and is necessary for the forming in the Mind the Idea we desire to imprint thereon.

But sometimes these accessory Ideas are inherent in the Words themselves, being generally excited by all that pronounce them. And this is the Reason that in Expressions which seem to signify the same thing, some are injurious, others mild, some impudent, others modest, some lewd, others chaste; because besides that principal Idea in which they agree, Men have annexed to them other Ideas, which are the Cause of that Difference.

This Observation may serve to discover a Piece of Injustice very common in those that complain of the Reproaches cast upon them; which is, their changing the Substantives into Adjectives; so that if they have

been ac-
have be-
reasonab-
the sam-
False, b-
they der-
whereas

Things
or Exter-
would si-
would a-
which w-
whom th-
is what
chuse, u-
acting w-

By th-
the Simp-
the same
pressed l-
strain'd
son whe-
nify, be-
Passion

Ideas to
pression

For I
adeone
without
rum: it
the Reat
more th-
Thought
imagine
challeng
Face: A
itself to
that it st

been accused of Ignorance or Falsity, they say they have been called Ignorant or False, which is very unreasonable; for these Words do by no means signify the same thing. For the Adjectives Ignorant or False, besides the Signification of the Fault which they denote, do also include the Idea of Contempt; whereas those of Ignorance and Falsity denote the Things such as they really are, without Aggravation or Extenuation; and others might be found which would signify the very same thing, in a manner, which would at the same time include a softening Idea, and which would shew a Desire to spare the Person against whom the Reproaches are made. And such a Manner is what prudent and moderate Men would always chuse, unless they have some particular Reason for acting with greater Vehemence.

By this also we may find the Difference between the Simple Style and the Figurative Style, and why the same Thoughts appear not more lively when expressed by a Figure, than they would if they were restrain'd to Expressions altogether simple; the Reason whereof is this, that Figurative Expressions signify, besides the principal Thing, the Movement and Passion of him that speaks, and thus imprint both Ideas together in the Mind; whereas the Simple Expression only shews the Truth in its naked Beauty.

For Instance, if this Half-Verse of *Virgil*, *Usque adeo mori miserum est!* were expressed simply and without a Figure thus; *Non est usque adeo mori miserum*: it certainly would have much less Strength. And the Reason is, that the first Expression signifies much more than the second. For it not only expresses that Thought, that Death is not so great an Evil as it is imagined; but it represents further the Idea of a Man challenging Death, and looking it unterrified in the Face: An Image much more lively than the Thought itself to which it is joined. Thus it is no Wonder that it strikes us more; for the Soul is indeed informed

by the Images of Truths, but she is seldom moved
but by the Images of Movements.

———*Si vis me flere, dolendum est
Primum ipse tibi.*

But as the figurative Style usually signifies, with
the Things, the Movements we feel when we con-
ceive and speak of them, we may thereby judge how
it ought to be employed, and what Subjects it is fit
for. It is plain, that it is ridiculous to use it in Mat-
ters purely speculative, which are looked upon with
a calm Eye, and which produce no Motion in the
Mind; for since Figures express the Motions of our
Soul, those which are thrown into Subjects where the
Soul is not moved, are Motions contrary to Nature,
and may rather be called Convulsions: For which
Reason nothing is more disagreeable than some Prea-
chers, who make the same Stir equally in every thing,
and who work themselves up no less in philosophical
Ratiocinations, than in Truths that are full of Won-
der, and the most Necessary to Salvation.

And on the other hand, when the Matter treated of
is such as ought reasonably to touch us, it is a Fault
to speak of it in a dry, cold, and motionless Way, be-
cause it is a Fault not to be touched with what we
ought.

Thus the divine Truths not being proposed to
be barely known, but much more to be beloved, re-
vered and adored by Men; the noble, exalted, and
figurative Manner in which the Holy Fathers have
handled them, is undoubtedly much more proper for
them, than a plain spiritless Style, like that of the
Scholastics; since the former not only teaches us
those Truths, but likewise represents to us the Sen-
timents of Love and Awe with which the Fathers
spoke of them; and by thus imprinting in our Minds
the Image of this holy Disposition, it may very much

contrib-
lastic S
Ideas o
cing in
which
nity, v
ful, bu
constit
Knowle
Last
mous C
Philoso
confute
that we
are gen

They
on that
ful. F
from th
not pro
to exp
reckon
sider'd
shews)
rious T
and no

But a
proceed
enough
Mind j
their M
may be
chastely
some o
other o
pudent
abomin
sent Ae

contribute to give us the like: Whereas the Scholastic Style being simple, and containing only the Ideas of the naked Truth, is less capable of producing in the Soul the Motions of Respect and Love which we ought to have for the Truths of Christianity, which renders it in this Point not only less useful, but also less agreeable, the Pleasure of the Soul consisting more in feeling Motions, than in acquiring Knowledge.

Lastly, by this Observation we may resolve the famous Question so much disputed among the ancient Philosophers, Whether any Words are unchaste? And confute the Arguments of the Stoics, who averred, that we might indifferently use those Expressions that are generally reckon'd impudent and obscene.

They maintain, says *Cicero* in a Letter written upon that Subject, that no Words are lewd nor shameful. For either the Obscenity (say they) proceeds from the Things, or it lies in the Words. It does not proceed from the Things only, since it is allowed to express them in other Words, which are never reckon'd unchaste. Neither is it in the Words consider'd as Sounds; since it often happens (as *Cicero* shews) that one and the same Sound signifying various Things, is accounted lewd in one Signification, and not in the other.

But all this is no more than a vain Subtilty, which proceeds only from those Philosophers not having enough consider'd these accessory Ideas which the Mind joins to the principal Ideas of Things; for by their Means it happens that one and the same Thing may be expressed chastely by one Sound, and unchastely by another, if one of those Sounds adds to it some other Idea which covers its Turpitude, and if the other on the contrary offers it to the Mind in an impudent Manner. Thus the Words Adultery, Incest, abominable Sin, are not infamous, tho' they represent Actions that are very infamous, because they represent

present them cover'd with a Veil of Horror, which makes us look upon them only as they are Crimes; so that those Words rather signify the Crime of those Actions, than the Actions themselves: Whereas there are some Words which express them without inspiring a Horror for them, and shewing them rather pleasant than wicked, and which even add to them an Idea of Impudence and Lasciviousness. And these are the Words which are called Lewd and Obscene.

The same may be said of divers Circumlocutions, which express in a clean manner Actions, which tho' lawful, have yet something in them of the Corruption of Nature: For such Circumlocutions not only barely express the Things themselves, but also the Disposition of him who speaks of them in that manner, and who shews by his Reservedness that he hides them as much as he can, both from others and from himself. Whereas those that should speak of them in another Manner, would appear to take Delight in regarding such Objects; and that Delight being infamous, it is no Wonder the Words which imprint that Idea, should be reckon'd contrary to Decency.

For this Reason it also sometimes happens that one and the same Word is accounted decent in one Age, and indecent in another; which has obliged the Hebrew Doctors to substitute in certain Places of the Bible Hebrew Words in the Margin, to be pronounced by those that read it in the room of those which the Scripture uses. For those Words, when the Prophets wrote them, were not at all indecent, because they were affixed to some Idea which suffer'd those Objects to be looked upon without Breach of Modesty and Virtue: But since that Time, that Idea having been separated from them, and Custom having joined to them another of Impudence and Obscenity, they are now become indecent; and it was with good Reason, to hinder the Mind's being struck with that ill Idea, that the Rabbies caused others to

be pronoun
presume

Thus
religions
desty, ai
an indece
ledge tha
Lupanar
the Wor
scarce be
wherewi
have con
dalous in
not join
makes th
conclude
use of t
Tongue,
the same
since bel
they also
Mind, i

These
portance
would be
Notice
Words a
scene; c
last, fin
than to

Of the

WE
c
Mind a

be pronounced in reading the Bible, tho' they do not presume to alter the Text.

Thus it was an ill Excuse of an Author, whom a religious Profession ty'd down to the exactest Modesty, and who was justly reproached for having used an indecent Word to signify an infamous Place, to alledge that the Fathers did not scruple to use that of *Lupanar*, and that we often found in their Writings the Words *Meretrix*, *Leno*, and others which would scarce be allowable in our Tongue. For the Freedom wherewith the Fathers used these Words, ought to have convinced him, that they were not thought scandalous in their Time, that is to say, that Custom had not joined to them that Idea of Lewdness which makes them indecent; and he was in the wrong to conclude from thence that he might lawfully make use of those which are accounted indecent in our Tongue, because these Words do not in Effect signify the same Things as those which the Fathers used; since besides the principal Idea wherein they agree, they also include the Image of an ill Disposition of Mind, inclinable to Lewdness and Debauchery.

These accessory Ideas therefore being of such Importance in diversifying the principal Signification, it would be of Use, if the Authors of Dictionaries took Notice of them, and marked, for Instance, such Words as are affronting, civil, abusive, modest, obscene; or rather they should utterly leave out those last, since it is always better to be ignorant of them, than to know them.

CHAP. XV.

Of the Ideas which the Mind adds to those that are precisely signified by the Words.

WE may likewise reckon under the Name of accessory Ideas, another sort of Idea which the Mind adds to the exact Signification of the Terms, by

by a particular Reason. It is that it often happens that having conceived the exact Signification which answer to the Word, it does not stop there when it is too confused and too general; but carrying its View further, it from thence takes Occasion to consider, in the Object represented to it, other Attributes and other Faces, and so to conceive it by more distinct Ideas.

This happens particularly in the Pronouns Demonstrative, when instead of the Name we use the Noun *hoc* *this*; for it is plain, *This* must signify *This Thing*, and that *hoc* signifies *hæc res*, *hoc negotium*. Now the Word *Thing*, *res*, betokens a very general and very confused Attribute of every Object, there being only, *Nothing*, to which the Word *Thing* may not be applied.

But as the Prououn Demonstrative *hoc* does not shew the Thing simply in itself, but also causes it to be conceived as present, the Mind does not stop at the mere Attribute of Thing; it commonly joins to it some other distinct Attributes. Thus when we use the Word *This*, to shew a Diamond, the Mind is not content with conceiving it as a Thing present, but adds to it the Ideas of a hard sparkling Body, cut into such or such a Form.

All these Ideas, as well the first and principal as that which the Mind adds to it, are excited by the Word *hoc* applied to a Diamond. But they are not excited in the same Manner; for the Idea of the Attribute of Thing present is excited as the proper Signification of the Word, and the other are excited as Ideas which the Mind conceives united and identified with that first and principal Idea, but which are not precisely denoted by the Pronoun *hoc*. For which Reason, according as the Term *hoc* is used in different Matters, the Additions are different. If I say *hoc*, shewing a Diamond, that Term will always signify *this Thing*; but the Mind will supply and add, *which*

happen in which when it is its View consider, in utes and e distinct
 is a Diamond, which is a hard sparkling Body. If it is Wine, the Mind will add the Ideas of Liquidity, of the Taste, and of the Colour of the Wine, and so of other Things.

We must therefore carefully distinguish these added Ideas from the Ideas signified; for tho' both arise in the same Mind, yet they do not both arise in the same Manner. And the Mind, which adds those other more distinct Ideas, does nevertheless conceive that the Term *hoc* signifies in itself only a confused Idea, which tho' joined to more distinct Ideas, still remains confused.

By this we may unravel an impertinent Piece of Chicanry, which the Protestant Ministers have render'd famous, and upon which they ground their main Arguments to establish their figurative Sense in the Eucharist; and it must not be thought strange that we make use of this Observation here to clear up this Argument, since it is fitter for Logic than Divinity.

Their Peretence is, that in this Proposition of Jesus Christ, *This is my Body*, the Word *This* signifies Bread. Now, say they, Bread cannot be really the Body of Jesus Christ; therefore Christ's Proposition does not signify, *This is really my Body*.

The Minor is not what we are here to examine; its Falsity has been proved elsewhere; we are only to look into the Major, wherein they affirm that the Word *This* signifies Bread; and we need only tell them, according to the Principle we have just now laid down, that the Word Bread denoting a distinct Idea, is not precisely what answers to the Term *hoc*, which only denotes the confused Idea of Thing present; but that it is indeed true that first when Christ pronounced that Word, having referred his Apostles to the Bread which he held in his Hands, they did probably add to the confused Idea of *Thing present*, signified by the Word *hoc*, the distinct Idea of Bread, which

which was only excited, and not precisely signified by that Term.

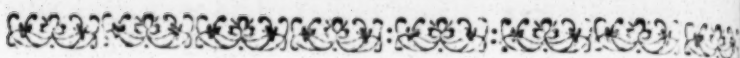
It is only want of Attention to this necessary Distinction, between the Ideas excited and the Ideas precisely signified, that occasions all the Perplexity of the Protestants. They make a thousand fruitless Endeavours to prove that Christ shewing Bread, and the Apostles seeing it, and being referred to it by the Word *hoc*, they could not avoid conceiving Bread. We grant them that they did probably conceive Bread, and that they had Reason for conceiving it; there is no need of many Arguments to convince us of this. The Question is not whether they did conceive Bread, but how they conceived it.

And here we tell them, that if they conceived, that is to say, if they had in their Mind the distinct Idea of Bread, they did not conceive it as signified by the Word *hoc*, which is impossible, because that Word will never signify any Thing but a confused Idea; but they conceived it as an Idea added to that confused Idea, and excited by the Circumstances.

The Importance of this Observation will appear presently. But it will not be amiss to add here, that this Distinction is so indisputable, that even when they undertake to prove that the Term *This* signifies Bread, they do nothing else but establish it. *This* says a Minister that wrote last upon this Subject, *signifies not only this Thing present, but also this Thing present which you know to be Bread.* Who is there that does not perceive that in this Proposition these Words *which you know to be Bread*, are, 'tis true, added to the Words *thing present* by an incident Proposition, but are not precisely signified by the Words *thing present*, the Subject of a Proposition not signifying the whole Proposition? And consequently in this Proposition which has the same Sense, *this which you know to be Bread*, the Word Bread is indeed added to the Word *this*, but not signified by the Word *this*.

But what matters it (the Ministers will answer) whether the Word *this* does precise'y signify the Bread or no, provided it be true that the Apostles conceived that what Christ called *this*, was Bread?

Now the Importance of the Observation is, that the Word *this* signifying in itself only the precise Idea of *thing present*, tho' determined to Bread by the distinct Ideas which the Apostles added to it, still remained capable of another Determination, and of being united with other Ideas, without the Mind's perceiving this Change of its Object. And thus when Christ pronounced of *this* that it was his Body, the Apostles had nothing to do but to cut away the Addition they had made by the distinct Ideas of Bread, and retaining the same Idea of *thing present*, they conceived, after Christ's Proposition was quite completed, that this *thing present* was now the Body of Christ. Thus they united the Word *hoc, this*, which they had joined to the Bread by an incident Proposition, with the Attribute of being Christ's Body. The Attribute of being Christ's Body obliged them indeed to cut away the added Ideas, but it did not make them change the Idea precisely marked by the Word *hoc*, and they simply conceived that it was the Body of Christ. Behold all the Mystery of this Proposition, which does not proceed from the Obscurity of the Terms, but from the Change wrought by Christ, who caused this Subject *hoc* to have two different Determinations at the Beginning and at the End of the Proposition, as we shall shew in the Second Book when we come to treat of the Unity of Confusion in the Subjects.



THE
SECOND PART
OF
LOGIC:

*Containing the Reflections Men have
made upon their Judgment.*



CHAP. I.

Of Words with Relations to Propositions.

AS we intend to explain the various Remarks which Men have made on their Judgments, and as those Judgments are Propositions made up of diverse Parts, we must begin by the Explication of those Parts which are chiefly Nouns, Pronouns, and Verbs.

It is little to the Purpose to examine whether it is the Business of Grammer or of Logic to treat of these Things; it is enough to say that all that may be serviceable to the End of an Art belongs to it, whether the Knowledge of the Thing be particular to it or whether there be other Arts and Sciences that all may lay a Claim to it.

Now certainly it is serviceable to the End of Logic, which is, *to Think justly*, to understand the various Uses of the Sounds appointed to signify the Ideas, and which the Mind has been accustomed to

mate with
conceived v
Thing exci
the Sound
We may
re distinct
made the S
And as
ception, J
we have al
Operations
invented t
it, Noun
purpose of
this is wha

The Ob
ready fai
the Words
the Manne
Those v
antive, a
manners,
which the
f, round
And th
re concei
ny certai
it were
antive V
And on
ance and
on to fo
that man
and takin
f Substa

unite with them so strictly, that the one is hardly ever conceived without the other; so that the Idea of the Thing excites the Idea of the Sound, and the Idea of the Sound that of the Thing.

We may say in general upon this Head, that Words are distinct and articulate Sounds, which Men have made the Signs to express what passes in their Mind.

And as what passes there may be reduced to Conception, Judgment, Reasoning and Disposition, as we have already said, Words serve to denote all those Operations; and for this End there have chiefly been invented three Sorts which are essential to them, to wit, Nouns, Pronouns, and Verbs, which serve the purpose of Nouns, but in a different Manner; and this is what we must explain here at length.

Of N O U N S.

The Objects of our Thoughts being, as we have already said, either Things, or Manners of Things, the Words designed to signify either the Things or the Manners, are called *Nouns*.

Those which signify Things are called *Nouns Substantive*, as *Earth, Sun*. Those which signify the Manners, denoting at the same time the Subject to which they agree, are called *Nouns Adjective*, as *good, just, round*.

And therefore, when by an Abstraction of Mind, we conceive these Manners without referring them to any certain Subject, as they then subsist in the Mind as it were by themselves, they are expressed by a Substantive Word, as *Wisdom, Whiteness, Colour*.

And on the contrary, when what is of itself Substance and Thing comes to be conceived with Relation to some Subject, the Words which signify it in that manner become Adjectives, as *humane, carnal*; and taking from these Adjectives, formed from Nouns of Substance, their Relation, they are again made

new Substantives. Thus after having formed of the Substantive Word *Man* the Adjective *humane*, we form from the Adjective *humane* the Substantive *Humaneity*.

There are some Nouns which pass for Substantives in Grammar, which are really Adjectives; as *King*, *Philosopher*, *Physician*, since they denote a Manner of Being or Mode in a Subject. But the Reason why they pass for Substantives, is, that as they appertain only to one single Subject, that single Subject is always understood without a Necessity of expressing it.

For the same Reason these Words, *red*, *white*, &c. are real Adjectives, because the Relation is denoted; but the Reason why the Substantive to which they relate is not expressed, is, that it is a general Substantive, which includes all the Subjects of those Modes and which in that Point is single in that Generality. Thus *red* is every red Thing, *white* every white Thing; or, as they say in Geometry, it is a red Thing *quodlibet*.

Adjectives then have essentially two Significations: the one distinct, which is that of the Mode or Manner; the other confused, which is that of the Subject. But tho' the Signification of the Mode be more distinct, it is nevertheless indirect; and on the contrary that of the Subject, tho' confused, is direct. The Word *White*, *Candidum*, signifies directly, but confusedly the Subject; and indirectly, tho' distinctly *Whiteness*.

Of PRONOUNS.

The Use of Pronouns is to stand instead of Nouns and to give an Opportunity of avoiding the Repetition of them, which is tedious. But we are not to imagine, tho' they stand instead of Nouns, that they have entirely the same Effect upon the Mind. The

is by no Means true; on the contrary, they are a Remedy to the Disgust taken at Repetition, only because they represent the Nouns in a confused manner. Nouns do in some sort uncover Things to the Mind, and Pronouns offer them as if they were veiled, tho' the Mind still perceives them to be the same Things as those signified by Nouns. For which Reason there is no Inconvenience in joining the Noun and Pronoun together. *Tu Phædria, Ecce ego Joannes.*

Of the different Sorts of PRONOUNS.

As Men perceiv'd that it was often useless and un- graceful to name themselves, they introduced the Pronoun of the first Person to stand in the stead of him that speaks, *Ego, I*; and that they might not be forced to name the Person they spoke to, they thought proper to denote him by a Word which they have called the Pronoun of the second Person, *thee*, or *tu*.

And to avoid repeating the Names of other Persons, and of other Things which they speak of, they have invented the Pronouns of the third Person, *ille, illa, illud*, among which there are some which point with the Finger to the Thing spoken of, and which therefore are called Demonstrative, *hic, iste, this, that*.

There is also one which is called Reciprocal, because it denotes the Relation of a Thing to one self. This is the Pronoun *sui, sibi, se*; *Cato killed himself*.

All Pronouns, as we said before, have this in common, that they denote confusedly the Noun which they stand for. But there is this of particular in the Gender of these Pronouns *illud, hoc*, when put absolutely, that is to say, without any Noun expressed, that whereas the other Genders *hic, hæc, ille, illa*, may be referred, and are generally referred to distinct Ideas, which nevertheless they only denote confusedly, *illum*
expiran-

expirantem flammam, that is, *illum Ajacem*: *Hic ego* *metas rerum, nec tempora ponam*, that is, *Romanis*; the Neuter on the contrary always refers to a general and confused Noun; *hoc erat in votis*, that is to say, *res, hoc negotium erat in votis*; *hoc erat alma parens*, &c. Thus there is a double Confusion in the Neuter, namely, that of the Pronoun, whose Signification is always confused, and that of the Word *negotium*, Thing, which is also as general and as confused.

Of the PRONOUN RELATIVE.

There is also another Pronoun which is called Relative, *qui, quæ, quod, who, which*.

This Pronoun has something in Common with the other Pronouns, and something of Proper.

What it has in Common is, that it is put instead of the Noun, and excites a confused Idea of it.

What it has of Proper is, that the Proposition wherein it stands may be reckon'd as a Part of the Subject, or of the Attribute of a Proposition, and form one of those added or incident Propositions which we shall treat of more largely hereafter: *Qui* *who is good*; *the World, which is visible*.

I suppose here that the Reader understands the Terms Subject and Attribute of Propositions, tho' we have not yet purposely explain'd them, because they are so common that they are generally understood by those who have not studied Logic: Those who do not understand them, need only have Recourse to the Chapter where we give the Sense of them.

We may hereby resolve this Question, What is the precise Sense of the Word *that* when it follows a Verb and seems to relate to nothing? *John answered, that he was not the Christ*. *Pilate says, that he found no Guilt in Jesus Christ*.

There are some that would make it an Adverb as well as *quod*, which the *Latins* sometimes, tho' it

rarely,
jicio qu

But
thing e
the Sent

So in
not Chris

sition to
Attribut

nifies fu
The or

Noun, a
apparent

aver, tha
this Occa

also: For
ceive that

Idea of A
manner wh

poliaffi; t
jected, ar

jected, ap
particulariz

y the quod
We may

suppose th
wrong. Th

ehend con
id that we

as much as
ys I suppos

or I suppose
as Idea of

suppose tha
tfection w

We may r
reek Article

Noun, th

rarely, use in the same Sense as our *that*; *non tibi ob-
jicio quod hominem spoliasti*, says Cicero.

But the Truth is, the Words *that*, *quod*, are no-
thing else but the Pronoun Relative, and do retain
the Sense of it.

So in this Proposition, *John answered that he was
not Christ*, this *that* retains the Use of tying one Propo-
sition to another, to wit, *he was not the Christ*, to the
Attribute included in the Word *answered*, which sig-
nifies *suit respondens*.

The other Use, which is to supply the Place of the
Noun, and to refer to it, does indeed seem much less
apparent here, which has made some learned Men
say, that this *that* was entirely destitute of it upon
this Occasion. Yet we may affirm that it retains this
also: For upon saying that *John answered*, we con-
ceive that *he made an Answer*, and it is to this confused
Idea of *Answer* that we are to refer this *that*. In like
manner when Cicero says, *Non tibi objicio quod hominem
spoliasti*; the *quod* relates to the confused Idea of *Thing*
objected, arising from the Word *objicio*. And this *Thing*
objected, apprehended at first confusedly, is afterwards
particulariz'd by the incident Proposition, conjoin'd
by the *quod*; *Quod hominem spoliasti*.

We may observe the same Thing in these Questions:
I suppose that you will be wise; *I say that you are in the
wrong*. This Term *I say* immediately makes us ap-
prehend confusedly a *Thing said*; and it is to this *Thing*
said that we are to refer the *that*. *I say that*, which
is as much as to say, *I say a Thing which is*: So he that
says *I suppose*, gives a confused Idea of *Thing supposed*.
And *I suppose* means, *I make a Supposition*; and it is to
this Idea of *Thing supposed* that we must refer the *that*,
I suppose that, which is as much as to say, *I make a
supposition which is*.

We may reckon in the Number of Pronouns the
Greek Article δ , η , $\tau\omicron$, when, instead of being before
the Noun, they are put after it. $\tau\epsilon\tau\omicron\epsilon\varsigma\iota\ \tau\omicron\ \sigma\alpha\mu\alpha\ \mu\omicron\varsigma$
 $\tau\omicron$

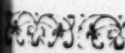
τὸ ὑπὲρ ὑμῶν διδόνον, says St. Luke. For this *τὸ* the, represents to the Mind the Body, σῶμα, in a confused manner. Thus it executes the Office of a Pronoun.

And the only Difference there is between the Article when employed to this Purpose and the Pronoun Relative, is, that tho' the Article supplies the place of the Noun, yet it joins the Attribute which follows it to the Noun which precedes in the same Proposition; but the Relative makes, together with the subsequent Attribute, a Proposition apart, tho' joined to the first, ὃ δίδωται, quod datur, that is to say, quod est datum.

We may judge by this Use of the Article, that there is very little Solidity in the Remark which has been lately made by a Protestant Minister upon the Manner wherein those Words of St. Luke ought to be translated. Because in the Greek Text there is not a Pronoun Relative but an Article, *this is my Body*, the given for you, and not which is given for you, τὸ ὑμῶν διδόμενον, and not ὃ ἐπὶ ὑμῶν δίδωται, he pretends that it is absolutely necessary, in order to express the Strength of this Article, to translate this Text thus; *This is my Body, my Body given for you, or the Body given for you*, and that it is no good Translation to express this Passage by these Words, *This is my Body which is given for you*.

But this Pretence comes only from the Author's not having dived thoroughly into the true Nature of the Pronoun Relative, and of the Article. For it is certain that as the Pronoun Relative *qui, quæ, quod*, in supplying the place of the Noun, represents it only in a confused manner, so the Article ὁ, ἡ, τὸ does but confusedly represent the Noun to which it refers so that this confused Representation being properly intended to avoid the distinct Repetition of the same Word, which is offensive,, it is in some measure to destroy the Purpose of the Article to translate it by a

express R
my Body
avoid th
Pronoun
we keep
is to rep
and not t
and only
essential,
Place of
jective jo
το ὑπὲρ ὑ
quæ, quod
Subject of
So that i
This is my
my Body
changing
to a distin
ture of an
confus'd S
by means
made but
are of Ne
two, we h
first in ch
him to do



What
nou
printed for
except son

exp

expresses Repetition of the same Word, *This is my Body*, *my Body given for you*, the Article being put only to avoid this Repetition; whereas in translating by the Pronoun Relative, *this is my Body which is given for you*, we keep this essential Condition of the Article, which is to represent the Noun only in a confused manner, and not to strike the Mind twice with the same Image; and only fail to observe another that may seem less essential, which is, that the Article supplies the Place of the Noun in such a manner, that the Adjective joined to it does not make a new Proposition, το ὑπὲρ ὑμῶν διδόμενον. Whereas the Relative *qui, quæ, quod*, separates a little more, and becomes the Subject of a new Proposition, ὁ ὑπὲρ ὑμῶν διδεται. So that indeed neither of these two Translations, *This is my Body which is given for you; this is my Body, my Body given for you*, is quite perfect, the one changing the confus'd Signification of the Article into a distinct Signification, contrary to the very Nature of an Article; and the other, which retains that confus'd Signification, dividing into two Propositions, by means of the Pronoun Relative, that which is made but one by means of the Article. But if we are of Necessity forced to make use of one of the two, we have not therefore a Right to condemn the first in chusing the last, as that Author took upon him to do by his Observation.

CHAP. II.

Of the VERB.

What we have thus far said of Nouns and Pronouns, we have borrow'd from a little Book printed some time ago, intituled, *A General Grammar*; except some few Points which we have explain'd in

G

a dis-

a different Manner; but as to what regards the Verb, which he treats of in his 13th Chapter, we shall do no more than transcribe what that Author says, because I think it can receive no Addition.

Men, says he, had no less Occasion to invent Words that might denote the Affirmative, which is the principal Manner of our Thought, than to invent those that might denote the Objects of our Thoughts.

And therein properly consists what we call the Verb, which is nothing else but a Word whose chief Use is to signify the Affirmation, that is to say, to shew that the Discourse where that Word is used, is the Discourse of a Man that not only conceives Things, but that judges of them and affirms them; in which the Verb is distinguished from some Nouns, which also signify the Affirmation, as *affirmans*, *affirmatio*, because they signify it only inasmuch as by a Reflection of the Mind it is become the Object of our Thought; and so those Nouns do not denote that he who uses them affirms, but only that he conceives an Affirmation.

I have said, that the principal Use of the Verb was to signify the Affirmation, because we shall shew presently that it is also employed to signify other Motions of our Soul, as to desire, to beg, to command, &c. but this is done only by changing the Inflection and the Mood; and therefore in all this Chapter we shall consider the Verb only according to its principal Signification, namely, that which it has in the Indicative. According to this Idea, we may say that the Verb of itself ought to have no other Use but to denote the Connection we make in our Mind between two Terms of a Proposition. But only the Verb *to be*, which is called a Verb Substantive, has remained in this Simplicity; and even this cannot properly be said to have remained in it in any but the third Person of the Present Tense *is*, and upon certain Occasions. For as Men are naturally inclined to shorten their Expre-

sions, th
mation

I. Th
so that
I say, P
alone in
of being
lives, as
the great
as if Mo
the gene
annexing
every La
Verb, w

II. Th
Occasion
then also
an entire
homo; be
but incl
which is
we alway
single V
Words in
the Attri
the first
living, I
ference o

III. T
Time in
single W
to whom
Time pre
proceeded
is in gene
The D
one and
Persons,

sions

sions, they have almost every where joined to the Affirmation other Significations in one and the same Word.

I. They have joined to it those of some Attribute; so that then two Words make a Proposition, as when I say, *Petrus vivit, Peter lives*, because the Word *vivit* alone includes both the Affirmation and the Attribute of *being living*, and so it is the same thing to say *Peter lives*, as to say *Peter is living*. From hence proceeded the great Variety of Verbs in every Language; whereas if Men had been contented with giving the Verb the general Signification of the Affirmation without annexing to it any particular Attribute, we should in every Language have had Occasion only for one single Verb, which is that we call the Substantive.

II. They have further joined to it, upon certain Occasions, the Subject of the Proposition; so that then also two Words, nay one single Word, may make an entire Proposition: Two Words, as when I say, *sum homo*; because *sum* not only signifies the Affirmation, but includes the Signification of the Pronoun *ego*, which is the Subject of this Proposition, and which we always express in our Tongue, *I am a Man*. One single Word, as when I say, *vivo sedeo*, For these Words include within themselves the Affirmation and the Attribute, as we have already said; and being in the first Person, they also include the Subject; *I am living, I am sitting*. From thence proceeds the difference of Persons which is generally in all Verbs.

III. They have likewise added a Relation to the Time in respect of which they affirm; so that one single Word, as *cenasti*, signifies that I affirm of him to whom I speak the Action of Supping, not for the Time present, but for the Time past; and from hence proceeded the Variety of Time or Tenses, which also is in general common to all Verbs.

The Diversity of these Significations, annexed to one and the same Word, is what has hinder'd many Persons, otherwise very learned, from finding out the

true Nature of the Verb, because they have not consider'd it according to what is essential to it, which is the *Affirmation*, but according to those other Relations which are accidental to it as a Verb.

Thus *Aristotle*, dwelling upon the third of the Significations added to that which is essential to the Verb, defines it, *Vox significans cum tempore*; a Word which signifies with Time.

Others, as particularly *Buxtorf*, having added the second to the former, have defin'd it, *Vox flexilis cum tempore & persona*; a Word which has divers Inflections with Time and Person.

Others, resting in the first of these added Significations, which is that of the Attribute, and having consider'd that the Attributes which Men have joined to the Affirmation in the same Word are commonly Actions and Passions, have believed that the Essence of the Verb consisted in *signifying Actions or Passions*.

And lastly, *Julius Caesar Scaliger* thought he had hit upon a Mystery in his Book of the Principles of the Latin Tongue, when he says, that the Division of Things in *permanentes & fluentes*, into what remains and what passes away, was the true Origin of the Distinction between Nouns and Verbs; Nouns being to signify what remains, and Verbs what passes away.

But it is easy to perceive that all these Definitions are false, and do not explain the true Nature of the Verb.

The manner in which the two first are conceived do plainly prove it: since they do not tell what the Verb signifies, but only that which it signifies with, *cum tempore, cum persona*.

The two last are still worse than the first: For they are guilty of the two greatest Faults of a Definition, which is to agree neither with the whole Thing defined, nor with the sole Thing defined; *neque omni, neque soli*.

For
Actions
exist,
clear.

And
nify Act
away, a
tain tha
verthele
Actions,
Verbs th
there is
does not
as fluit.

To w
Definitio
signify w
Present,
Greek.

lieve tha
cially wh
Nomina
there wo
the less b

And t
not a Ve
tion; fro

Propositi
do, unles
what was
be restore

a Proposi
position,
ter is livi
cluded in
Participle
Affirmati
makes it

For there are Verbs which signify neither the Actions nor the Passions, nor what passes away; as *existit, quiescit, friget, alget, tepet, calet, albet, viret, claret, &c.*

And there are Words that are not Verbs, which signify Actions and Passions, and even Things which pass away, according to *Scaliger's* Definition. For it is certain that the Participles are real Nouns, and that nevertheless those of Verbs Active do no less signify Actions, and those of the Passive Passions, than the Verbs themselves from whence they are derived: and there is no manner of Reason to pretend that *fluens* does not signify a thing which passes away, as well as *fluit*.

To which we may add, in Answer to the two first Definitions of the Verb, that the Participles do also signify with Time, since there are Participles of the Present, of the Past, and of the Future, especially in Greek. And those who, not without Reason, believe that a Vocative is a true second Person, especially when it has a Termination different from the Nominative, will be convinced that on that Side there would only be a Difference of the more or of the less between the Vocative and the Verb.

And thus the essential Reason why a Participle is not a Verb, is, that it does not signify the *Affirmation*; from whence it proceeds that it cannot make a Proposition, which it is the Propriety of the Verb to do, unless a Verb is added to it, that is to say, unless what was taken from it to make the Verb a Participle be restored to it. For why is *Petrus vivit, Peter lives*, a Proposition, and *Petrus vivens, Peter living*, no Proposition, unless you add to it *est, Petrus est vivens, Peter is living*? except it be because the Affirmation included in *vivit* was taken away from it to make the Participle *vivens*. From whence it appears, that the Affirmation's being or not being in a Word, is what makes it a Verb or no Verb.

Whereupon we may further observe by the way that the Infinitive, which is very often a Noun, as *le boire, le manger*, is then different from the Participles, in that the Principles are Noun Adjectives, and the Infinitive a Noun Substantive, made by Abstraction from that Adjective, in the same manner as from *candidus* is made *candor*, and from *white* comes *Whiteness*. Thus *rubet*, the Verb, signifies *is red*, taking in at once the Affirmation and the Attribute: *rubens*, the Participle, signifies barely *red* without the Affirmation, and *rubere*, taken as a Noun, signifies *Redness*. It may therefore be laid down for certain, that if we only consider what is essential to the Verb, its true and only Definition is, *Vox significans affirmationem*; a Word which signifies Affirmation. For we can find no Word denoting Affirmation that is not a Verb; nor any Verb that does not denote it at least in the Indicative. And it is indisputable, that if one had been invented, as for Instance, which should always denote the Affirmation, without any Difference either of Person or of Time, so that the Diversity of Persons should be denoted only by Nouns and Pronouns, and the Diversity of Time by Adverbs, it would have been a true Verb. As in Effect, in the Propositions which the Philosophers say are of eternal Truth, such as, *God is infinite*; *every Body is divisible*; *the Whole is greater than its Parts*; the Word *is* signifies only the bare Affirmation, without any relation to Time; because it is true according to all the Tenses, and without requiring our Mind to fix upon any Diversity of Person.

The Verb therefore, to consider only what is essential to it, is a Word which signifies Affirmation. But if we would insert in the Definition of the Verb its principal Accident, we might define it thus; *Vox significans affirmationem cum designatione personæ, numeri & temporis*; A Word which signifies Affirmation, with Designation of Person, Number and Time. Which properly agrees with the Verb Substantive,

Forast
the Verb
of the Aff
be defined
nemalicuj
temporis:
Attribute,

And w
firmation
the Verb,
two Affir
that spea
whether i
say, *Pet*
affirmans
Judgment
Affirmati
Peter. T
Reason, c

For w
Judgment
are negat
themselve
ing denot
which inc
body; wh
mation in
corpus est

What a

AFTER
com
some agr

For

Foras to the other Verbs, inas much as they differ from the Verb Substantive by the Junction Men have made of the Affirmation with certain Attributes, they may be defined after this manner: *Vox significans affirmationem alicujus attributicum designatione personæ, numeri, & temporis*: A Word which denotes the Affirmation of some Attribute, with Designation of Person, Number and Time.

And we may observe by the way, that as the Affirmation, as conceived, may also be the Attribute of the Verb, as in the Verb *affirmo*, this Verb signifies two Affirmations, whereof one regards the Person that speaks, and the other the Person spoken of, whether it be of ourselves, or of another. For when I say, *Petrus affirmat*, *affirmat* is the same Thing as *est affirmans*; and then *est* denotes my Affirmation, or the Judgment I make concerning *Peter*, and *affirmans* the Affirmation which I conceive and which I attribute to *Peter*. The Verb *nego*, on the contrary, for the same Reason, contains an Affirmation and a Negation.

For we must further observe, that tho' all our Judgments are not affirmative, but that some of them are negative, Verbs however do never signify of themselves any Thing but Affirmations; Negations being denoted only by Particles, *non*, *ne*, or by Nouns which include those Particles, *nullus*, *nemo*, *none*, *nobody*; which being joined to Verbs, change the Affirmation into a Negation, *No Man is immortal*, *Nullum corpus est indivisible*.

CH A P. III.

What a Proposition is, and of the four Sorts of Propositions.

AFTER having conceived Things by our Ideas, we compare those Ideas together, and finding that some agree among themselves, and that others disa-

gree, we unite or separate them, which is called *judge* or *to deny*, and in general *to judge*.

This Judgment is also called a *Proposition*, and it is manifest that it must have two Terms; the one the whereof we affirm, or whereof we deny, which is called the *Subject*; and the other that which we affirm or deny, which is called *Attribute* or *predicatum*.

And it is not sufficient that we conceive these two Terms; but the Mind must either unite or separate them. And this Action of the Mind is denoted, as we have already said, by the Verb *est*, either by itself when we affirm, or with a negative Particle when we deny. Thus when I say, *God is just*, *God* is the Subject of that Proposition, and *just* is the Attribute of it, and the Word *is* denotes the Action of my Mind, which affirms, that is to say, which unites the two Ideas of *God* and of *just*, as agreeing one with the other. If I say, *God is not unjust*, *is* being joined with the Particle *not*, signifies the Action which is contrary to that of affirming, namely, that of denying, whereby I look upon those Ideas to be repugnant to each other, because there is something included in the Idea of *Unjust*, contrary to what is included in the Idea of *God*.

But tho' every Proposition does necessarily include these three Things, yet, as we said in the foregoing Chapter, it may consist but of two Words, nay but of one.

For Men, in order to speak more concisely, have made vast Numbers of Words which at once signify both the Affirmation, that is to say, that which is signified by the Verb Substantive, and also a certain Attribute which is affirmed. Such are all the Verbs in general, except those we call Substantives, as *God exists*, that is to say, *is existing*; *God loves Mankind*, that is to say, *God is loving Mankind*. And the Verb Substantive

stantive, v
therefore I
then there
tributes,
as to say,

There a
ject and t
Word, as
especially

For the S
included i

From w
single Wo
second Pe
already in
is *veni*, v

By this
or Negati
Verb, is v

But the
sing from
verbal, or
For the
part, are
al.

And the
ording to
universal S
for the Aff

all Men, i

Or accor
tent, whic
aliquis, for
adequate V

From w
ference in
Propositi

stantive, when it stands alone, as when I say, *I think*; therefore *I am*, ceases to be purely Substantive, because when there is joined to it the most general of all Attributes, which is, *a Being*. For *I am*, is as much as to say, *I am a Being, I am a Thing*.

There are also other Occasions upon which the Subject and the Affirmation are both included in one Word, as in the first and second Persons of Verbs, especially in Latin; as when I say, *sum Christianus*: For the Subject of this Proposition is *ego*, which is included in *sum*.

From whence it appears, that in that Language, one single Word can make a Proposition in the first and second Person of Verbs, which by their Nature do already include the Affirmation with the Attribute, as *veni, vidi, vici*, are three Propositions.

By this we see that every Proposition is Affirmative or Negative, and that that which is denoted by the Verb, is what is affirmed or denied.

But there is another difference in Propositions, arising from their Subject, which is, that they are Universal, or Particular, or Singular.

For the Terms, as we have already said in the first Part, are either Singular, or Common and Universal.

And the Universal Terms may be taken either according to their whole Extent, joining them to the universal Signs expressed or understood, as *omnis, all*, for the Affirmation; *nullus, none*, for the Negation; *all Men, no Man*.

Or according to an indeterminate Part of their Extent, which is when there is joined to them the Word *aliquis, some*, as *some Man, some Men*, or any other adequate Word in any Language.

From whence there happens a very notable Difference in Propositions. For when the Subject of a Proposition is a common Term which is taken in its

full Extent, the Proposition is called Universal, whether it be affirmative, as, *Every impious Man is a Fool*; or negative, as, *No vicious Man is happy*.

And when the common Term is only taken according to an indetermin'd Part of its Extent, being confin'd by the indetermin'd Word *some*, the Proposition is called particular, whether it affirms, as, *Some cruel Men are Cowards*; or whether it denies, as, *Some poor Men are not unhappy*.

If the Subject of a Proposition is singular, as when I say, *Louis XIII. took Rochelle*, it is called Singular.

But tho' this singular Proposition be different from the Universal in that its Subject is not common, yet it ought much rather to be referred to that than to the Particular; because its Subject, for that very Reason because it is singular, is necessarily taken in its whole Extent, which is the Essence of an universal Proposition, and which distinguishes it from the Particular. For it matters little to the Universality of a Proposition, whether the Extent of its Subject be great or little, provided that, be it which it will, it be taken whole and entire. And for this Reason the singular Propositions supply the Place of Universal ones in Augmentation. Thus all Propositions may be reduced to four Sorts, which are marked by these four Vowels, A, E, I, O, for the Ease of the Memory.

A. The Affirmative Universal, *Every Vicious Man is a Slave*.

E. The Negative Universal, as, *No Vicious Man is happy*.

I. The Affirmative Particular, as, *Some Vicious Man is rich*.

O. The Negative Particular, as, *Some Vicious Man is not rich*.

And for the better retaining them, they have been included in this Distich:

*Afferit A, negat E, verum generaliter ambo,
Afferit I, negat O, sed particulariter ambo.*

It ha
Quantit
fitions.

And
or Nega
looked u

And t
differ as

But A
to the Q

Propo

Matter,
can be r
since eve
make of
conforma
to it.

But b

true and
think tru

there are
not so ev

sion of t
but whos

the Propo

the forme

bable. V

what may

tion is tr

Of the O

W E j
Pro

It has also been usual to call by the Name of Quantity, the Universality or Particularity of Propositions.

And to call by the Name of Quality the Affirmation or Negation, which depends on the Verb which is looked upon to be the Form of the Proposition.

And thus A and E agree as to the Quantity, and differ as to the Quality, as also do I and O.

But A and I agree as to the Quality, and differ as to the Quantity; as also do E and O.

Propositions are again divided, according to their Matter, into true and false. And it is apparent there can be none but what must be either true or false; since every Proposition denoting the Judgment we make of Things, it is true when that Judgment is conformable to Truth, and false when not conformable to it.

But because we often want Light to find out the true and the false; besides the Propositions which we think true, and those which we think certainly false, there are some which seem true, but whose Truth is not so evident as to leave us without any Apprehension of their being false; and others that seem false, but whose Falsity we do not think certain. These are the Propositions which are called probable, whereof the former are more probable, and the latter less probable. We shall say something in the 4th Part of what may make us judge with Certainty that a Proposition is true.



CHAP. IV.

Of the Opposition between Propositions that have the same Subject and the same Attribute.

WE just now said, that there are four Sorts of Propositions, A, E, I, O; the Question now is,

is, What Agreement or Disagreement they have with each other, when of the same Subject and of the same Attribute there are made divers sorts of Propositions. This is what is called Opposition.

And it is easy to see that this Opposition can be but of three Sorts; tho' one of the three is subdivided into two others.

For if they are oppos'd both in Quantity and in Quality too, as A, O, and E, I, they are called Contradictory, as, *Every Man is an Animal: Some Man is not an Animal; No Man is free from Sin; Some Man is free from Sin.*

If they differ in Quantity only, and agree in Quality, as A, I, and E, O, they are called Subaltern, as, *Every Man is an Animal; Some Man is an Animal; No Man is free from Sin; Some Man is not free from Sin.*

If they differ in Quality and agree in Quantity, then they are called Contrary, or Subcontrary: Contrary, when they are Universal, as, *Every Man is an Animal; No Man is an Animal.*

Subcontrary, when they are Particular, as, *Some Man is an Animal; Some Man is not an Animal.*

And now if we view these opposite Propositions, as to their Truth or Falsity, it is easy to judge;

1. That the Contradictory are never either true or false together; but if one is true, the other is false; and if one is false, the other is true. For if it is true that every Man is an Animal, it cannot be true that some Man is not an Animal; and if on the contrary it is true that some Man is not an Animal, it is not then true that every Man is an Animal. This is so clear, that to go about to explain it further, would only be to darken it.

2. Contraries can never be both true; but they may be both false. They cannot be true, because then the Contradictions also would be true. For if it is true that every Man is an Animal, it is false that some Man is not an Animal, which is the Contradictory, and

and consequently still more false that no Man is an Animal, which is the contrary.

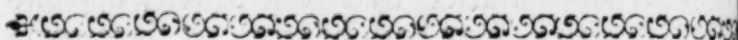
But the Falsity of the one does not imply the Truth of the other. For it may be false that all Men are just, and yet not therefore be true that no Man is just, since there may be some just Men, tho' all be not just.

3. That Subcontraries, by a Rule directly opposite to the Contraries, may both be true, as these two; *Some Man is just; Some Man is not just*; because Justice may be ascribed to one Part of Mankind, and not to the other; and therefore the Affirmation and the Negation do not regard the same Subject, since *Some Man* is taken for one Part of Mankind in one of the Propositions, and for another Part in the other. But they cannot be both false, because then Contradictories would be both false. For if it were false that some Man is just, it would then be true that no Man is just, which is the Contradictory, and more certainly so that some Man is not just, which is the Subcontrary.

4. As to the Subalterns, it is not a real Opposition, since the Particular is a Consequence of the General. For if every Man is an Animal, some Man is an Animal: If no Man is an Ape, some Man is not an Ape. So that the Truth of the Universal implies that of the Particular; but the Truth of the Particular does not imply that of the Universal. For it does not follow that because it is true that some Man is just, it should also be true, that every Man is just. And on the contrary, the Falsity of the Particular does imply the Falsity of the Universal. For if it is false that some Man is free from Sin, it is still more false that every Man is free from Sin. But the Falsity of the Universal does not imply the Falsity of the Particular. For tho' it be false that every Man is just, it does not therefore follow that it is a Falsity to say that some Man is just. From whence it appears, that there

there are several Occasions wherein these subaltern Propositions are both true, and others wherein they are both false.

I say nothing of the Reduction of opposite Propositions into one and the same Sense, because it is utterly useless, and that the Rules given for it are for the most part true only as to the Latin Tongue.



CHAP V.

Of Simple and Compound Propositions. That there are Simple ones which seem Compound, and are not so, and which may be called Complex. Of those that are Complex in the Subject, or in the Attribute.

WE have said, that every Proposition must have at least a Subject, and an Attribute; but it does not follow from thence that it can have but one Subject, and but one Attribute. Those therefore which have but one Subject and one Attribute are called *Simple*, and those which have more than one Subject or more than one Attribute are called *Compound*; as when I say, Goods and Evils, Life and Death, Poverty and Wealth, come from the Lord. This Attribute of *coming from the Lord*, is affirmed not of one single Subject, but of several, namely, of the Goods and Evils, &c.

But before we explain these compounded Propositions, it is necessary to observe that there are some which appear to be so, and which yet are simple. For the Simplicity of a Proposition arises from the Unity of the Subject and of the Attribute. Now there are many Propositions which properly have but one Subject and one Attribute, but whose Subject or Attribute is a complex Term, which includes other Propositions that may be called Incident, which make only a Part of the Subject or of the Attribute, being joined

joined to it by the Pronoun Relative, *who, which*, whose Propriety is to unite several Propositions, so that all together they form but one.

Thus when Jesus Christ says, *He that doth the Will of my Father which is in Heaven, shall enter into the Kingdom of Heaven*; the Subject of this Proposition contains two Propositions, since it includes two Verbs; but as they are joined by *that* and *which*, they only make a Part of the Subjects; whereas, when I say, Goods and Evils come from the Lord, there are properly two Subjects, because I affirm equally of both, that they come from God.

And the Reason of this is, that the Propositions joined to others by that Pronoun Relative either are Propositions but very imperfectly, as we shall shew presently, or are not so much consider'd as Propositions then made, as they are consider'd as Propositions which have been made before, and which we then do but just conceive, as if they were simple Ideas. From whence it proceeds that it is indifferent whether we express those incident Propositions by Nouns Adjectives, or Participles without Verbs and without any *who* or *which*; or with Verbs and with *who* or *which*. For it is the same Thing to say, *God invisible hath created the World visible*; or, *God, who is invisible, hath created the World which is visible*; *Alexander, the most valiant of all Kings, conquered Darius*; or, *Alexander, who was the most valiant of all Kings, conquer'd Darius*. And in both, my chief Intent is not to affirm that God is invisible, or that *Alexander* was the most valiant of all King; but supposing those Things to have been affirmed already, I affirm of God conceived as invisible, that he created the World visible; and of *Alexander*, conceived as the most valiant of all Kings, that he conquer'd *Darius*.

But if I said, *Alexander was the most valiant of all Kings, and the Conqueror of Darius*; it is plain I should equally affirm of *Alexander*, that he was the most valiant

liant of all Kings, and that he was the Conqueror of *Darius*: So that it is with good Reason this last sort of Propositions are called Compound Propositions, whereas the former may be called Complex Propositions.

We are to observe, that these Complex Propositions may be of two Sorts; for the Complexity, as we may so call it, may fall either upon the Matter of the Proposition, that is to say, upon the Subject, or else upon the Attribute, or upon both, or upon the Form only.

1. The Complexity falls upon the Subject when the Subject is a Complex Term, as in this Proposition *Every Man that fears nothing is a King; Rex est qui metuit nihil.*

*Beatus ille qui procul negotiis,
Ut prisca gens mortalium,
Paterna rura bobus exercet suis,
Solutus omni fœnore.*

For the Verb *est* is understood in this last Proposition, and *beatus* is its Attribute, and all the rest the Subject.

2. The Complexity falls upon the Attribute, when the Attribute is a Complex Term, as, *Piety is a Good that makes Men happy under the greatest Adversities.*

Sum pius Aeneas fama super æthera notus.

But we must here particular'y observe, that all Propositions compounded of Verbs Active, and what they govern, may be called Complex, and that they in a manner contain two Propositions. If I say, for instance, *Brutus* killed a Tyrant, it means that *Brutus* killed somebody, and that this somebody was a Tyrant. Whence it appears that this Proposition may be contradicted two ways, either by saying, that *Brutus*

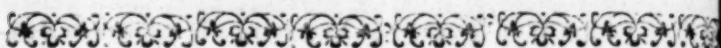
did not kill any Body, or by saying, that the Person killed was not a Tyrant: Which is of great Importance to observe, because when these Sorts of Propositions are urged in Arguments, it is common to prove but one Part of them, and to suppose the other; which often forces the Adversary, in order to bring those Arguments into the most natural Form, to change the Active into a Passive, to the Intent that the Part which is proved may be directly expressed, as we shall observe more at length, when we treat of the Arguments made up of these Complex Propositions.

3. Sometimes the Complexity falls upon the Subject and upon the Attribute too, both being complex Terms; as in this Proposition: *The Great Men that oppress the Poor shall be punished by God, who is the Protector of the Oppressed.*

*Ille ego qui quondam gracili modulatus avena
Carmen, & egressus sylvis vicina coegi,
Ut quamvis arido parerent arva colono
Gratum opus agricolis: At nunc horrentia Martis
Arma, virumque cano, Trojae, qui primus ab oris
Italiam fato profugus Lavinaque venit
Littora.*————

The three first Verses, and half the fourth, make the Subject of this Proposition, and the rest make the Attribute; and the Affirmation is included in the Verb *cano*.

These are the three Manners according to which Propositions may be complex as to their Matter, that is to say, as to their Subject and Attribute.



C H A P. VI.

*Of the Nature of incident Propositions, which make
a Part of Complex Propositions.*

BUT before we speak of those Propositions whose Complexity lights upon the Form, that is to say upon the Affirmation or Negation, there are several important Remarks to be made upon the Nature of incident Propositions, which make a Part of the Subject or Attribute of those that are complex as to the Matter.

1. We have already shewed, that these incident Propositions are those whose Subject is the Relation *who, as, Men who were created to know and love God, Men who are pious*: taking away the Term *Men*, the rest is an incident Proposition.

But it is necessary to remember what we said in the 7th Chapter of the first Part, that the Addition of complex Terms are of two Sorts; the one which may be called bare Explications, which is when Addition changes nothing in the Idea of the Term, because what is added to it agrees with it generally and in its whole Extent, as in the first Example, *Men who were created to know and love God*.

The others which may be called Determinative, because what is added to a Term not agreeing with that Term in its whole Extent, restrains and determines its Signification, as in the second Example *Men who are pious*. According to this Division we may say that there is an Explicative *who*, and a terminative *who*.

Now when the *who* is explicative, the Attribute of the incident Proposition is affirmed of the Subject

which the *who* refers, tho' it be only incidentally with relation to the total Proposition, so that the Subject itself may be substituted in the room of *who*, as may be seen in the first Example: *Men who were created to know and love God*: For we might say, *Men were created to know and love God*.

But when the *who* is determinative, the Attribute of the incident Proposition is not properly affirmed of the Subject to which the *who* refers. For if after having said, *Men who are pious are charitable*, we should substitute the Word *Men* in the room of *who*, and say, *Men are pious*, the Proposition would be false, because it would be to affirm the Word *pious* or *Men quasi-pious*: But when we say, *Men who are pious are charitable*, we do not affirm either of Men in general, or of Men in particular, that they are pious; but the mind uniting the Idea of *pious* with that of *Man*, and taking thereof a total Idea, judges that the Attribute *Charitable* agrees with that total Idea. And thus the Judgment expressed in the incident Proposition, only that whereby our Mind judges that the Idea of *pious* is not incompatible with that of *Man*, and that therefore we may consider them as joined together, and then examine what agrees to them according to that Junction.

There are often Terms which are doubly and trebly complex, being compounded of several Parts, each of which apart is complex; so that there may be in it several incident Propositions and of divers kinds, the one or which of one being determinative, and that of another explicative; which will better appear in this Example: *The Doctrine which places the chief Good in the Pleasures of the Body, which was taught by Epicurus, is unworthy a Philosopher*. The Attribute of this Proposition is, *unworthy a Philosopher*, and all the rest is its Subject; and thus the Subject is a complex Term, including two incident Propositions: The first is, *which places the chief Good in the Pleasures of the Body*; the second is, *which*

which in this incident Proposition is determinative, for it determines the Word Doctrine, which is generally to be that which affirms that the chief Good of Man is in the Pleasures of the Body: Wherefore we could not, without Absurdity, substitute in the room of the *which*, the Word Doctrine, and say, *Doctrine places the chief Good in the Pleasures of the Body*. The second incident Proposition is, *which was taught by Epicurus*, and the Subject whereto this *which* relates, is the whole Complex Term, *the Doctrine which places the chief Good in the Pleasures of the Body*, which denotes a singular and individual Doctrine, capable of various Accidents, as of being maintained by various Persons; tho' in itself it be determin'd to be taken always in the same Manner, at least in this precise Point, according to which it is understood. And therefore, the *which* of the second incident Proposition, *which was taught by Epicurus*, is not determinative, but only explicative. From whence it proceeds, that the Subject whereto this *which* relates, may be substituted in the room of the *which*, saying, *the Doctrine which places the chief Good in the Pleasures of the Body was taught by Epicurus*.

2. The last Observation is, that to judge of the Nature of these Propositions, and to know whether the Pronoun Relative is determinative or explicative, it is often necessary to have an Eye to the Sense and Intention of him that speaks, more than to the Letter of the Expression.

For many times there are complex Terms which seem incomplex, or less complex than really they are, because Part of what they include in the Mind of the Speaker is understood, and not expressed, according to what we said in the 7th Chapter of the first Part, where we shewed that there is nothing more frequent in Men's Discourse, than to denote singular Things by common Names; because the Circumstances of their Discourse sufficiently evince that they annex

The common Idea which answers to that Word a singular and distinct Idea, which determines it to signify one single and only thing.

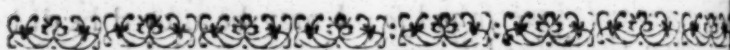
I say this generally appears from the Circumstances, as in the Mouth of a *Frenchman* the Word *King* signifies *Louis XIV.* But here follows another Rule by which we may judge when a common Term remains in its general Idea, and when it is determined by a distinct and particular Idea, tho' not expressed.

When there is a manifest Absurdity in joining any Attribute with a Subject remaining in its general Idea, we are to believe that he who advanced the Proposition did not leave that Subject in its general Idea. Thus if I hear a Man say. *Rex hoc miri imperavit; The King commanded me so and so; I may be assured he did not leave the Word King in its general Idea; for King in general can give no particular Command.*

If a Man told me, *The Brussels Gazette of the 14th of January 1662, relating to the Affairs of Paris is false; I should be assured he had something more in his mind than what was signified by those Terms, because that would not be enough to enable a Man to judge that Gazette to be true or false; and that therefore he must have conceived some distinct and particular Piece of News which he judged to be contrary to truth; as if that Gazette had said, That the King had made a hundred Knights of the Order of the Holy Ghost.*

In like manner in the Judgment made of the Opinions of Philosophers, when a Man says that the Doctrine of such a Philosopher is false, without expressing distinctly what that Doctrine is; as, *The Doctrine of Lucretius touching the Nature of the Soul is false; it must necessarily be, that he conceives a distinct and particular Opinion under the general Word the Doctrine of such a Philosopher, because the quality of false cannot appertain to a Doctrine as being of such or such an Author; but only as it is some*
one

one particular Opinion, contrary to Truth. And thus such Propositions necessarily resolve themselves into these; *Such an Opinion, which was taught by such an Author, is false: The Opinion that our Soul is formed of Atoms, which was taught by Lucretius is false.* So that these Judgments always include two Affirmations, even tho' they be not distinctly expressed; the one Primary or Principal, which relates to the Truth in itself, *viz.* that it is a great Error to believe that our Soul is compos'd of Atoms; the other Incident which relates only to a Point of History, namely, that this Error was taught by *Lucretius*.



CHAP. VII.

Of the Falsity there may be in complex Terms, and in incident Propositions.

WHAT we just now said may help to resolve a famous Question, namely, Whether Falsity lies only in Propositions, and whether there is none in the Ideas and in simple Terms?

I speak of Falsity rather than of Truth, because there is a Truth which is in Things with relation to the Spirit of God, whether Men think of them or not; but there can be Falsity in them only with Relation to the Spirit of Man, or to some other Spirit liable to Error, which falsely judges them to be what they are not.

The Question then is, Whether this Falsity happens only in the Propositions and in the Judgments?

The usual Answer is, No, which in one Sense is true; but this hinders not but that there may

Falsity
Terms;
Affirmatio
for such
We sha
a particu
one whose
Relative i
In the
that there
the incide
which the
of Philip;
son of Phil
of Alexan
But we
Things:
position d
principal
as the So
tion ought
e not th
the princi
and what
not hinder
overcame
Yet if
had relatio
aid, Alex
Amintas,
the incide
the Fals
2. The
may be gi
no' what
ise agree
title of A

And Falsehood, not in the single Ideas, but in complex Terms; because if there is any Judgment, and any Affirmation either exprefs or virtual, there is room for such Falsehood.

We shall conceive this more clearly if we consider in particular the two Sorts of complex Terms, the one whose Relative is Explicative, the other whose Relative is Determinative.

In the first sort of complex Term it is no Wonder that there may be Falsehood, because the Attribute of the incident Proposition is affirmed of the Subject to which the Relative refers; *Alexander, who is the Son of Philip*; I affirm of *Alexander*, tho' incidentally the Son of *Philip*; and consequently there is Falsehood in it, if *Alexander* be not the Son of *Philip*.

But we are to remember two or three important Things: 1. That the Falsehood of the incident Proposition does not commonly hinder the Truth of the principal Proposition. For Example, *Alexander, who was the Son of Philip, overcame the Persians*; this Proposition ought to be reckon'd true, even tho' *Alexander* be not the Son of *Philip*, because the Affirmation of the principal Proposition falls upon *Alexander* only, and what is incidentally joined to it, tho' false, does not hinder but that it may be true, that *Alexander* overcame the *Persians*.

Yet if the Attribute of the principal Proposition had relation with the incident Proposition, as if I said, *Alexander the Son of Philip, was the Grandson of Amintas*, it would be then only that the Falsehood of the incident Proposition would also carry along with it the Falsehood of the principal Proposition.

2. The Titles usually given to certain Dignities may be given to all that possess those Dignities, altho' what is signified by that Title does not in any wise agree with them. Thus because formerly the Title of *Holy* and *Most Holy* was given to all Bishops, the

the Catholic Bishops in the Conference of *Carthage* made no Scruple to give that Name to the Donatist Bishops, *Sanctissimus Petilianus dixit*, tho' they very well knew there could be no true Sanctity in a Schismatical Bishop. We also find, that *St. Paul* in the *Acts* gives the Title of *Best* or *Most Excellent* to *Festus*, Governour of *Judea*, because it was the Title usually given to those Governours.

3. The Case is not the same when a Man is the Author of the Title which he gives to another, and that he gives it him out of his own Head, not according to the Opinion of others, or the popular Error; for then he may justly be charged with the Falseness of those Propositions. Thus, when he says, *Aristotle*, who is the Prince of Philosophers, or simply, the Prince of Philosophers, believed that the Nerves took their Rise from the Heart, we could not reasonably tell him it was false, because *Aristotle* is not the best of Philosophers; for it is enough, that he therein follow'd the common Opinion, tho' false. But if he said, *M. Gassendi*, who is the greatest of Philosophers, believes that there is a Vacuum in Nature, we should have good Cause to dispute the Quality he appropriates to *Gassendi*, and to make him answerable for the Falseness which we might aver to be in that incident Proposition. Thus we may be accused of Falseness towards one and the same Person, for giving him a Title which does not belong to him, and not be accused of it for giving him another which in Fact belongs to him less than the other: For Instance, *Pope John XII.* was neither Holy, nor Chaste, nor Pious, as *Baronius* acknowledges; and yet he that should call him *Most Holy* could not be charged with Falseness; and he that should call him *Most Chaste* and *Most Pious*, would be a very great Liar, tho' he did it only by incident Propositions, in saying, *John XII. the most chaste Pontiff, decreed such a Thing.*

Thus
tions, wh
the other
as, *Men*
certain t
Falseness
position
the who r
Judges w
worthy of
is indeed
Neverthe
those Pro
of the a
Subject w
Agreement
it may r
in these
Minds w
are round
compatib
Principle
ident Prop
Nay w
proceed i
the Idea
with whi
for we th
attribute
Thus f
Thinking
stance, it
Soul, wh
ceptibly
ended Su
must nec
it could

Thus

Thus much for the first Sort of Incident Propositions, whose Relative Pronoun is explicative: As for the others, whose Relative Pronoun is Determinative, as, *Men who are pious, Kings who love their People*, it is certain that generally they are not susceptible of Falshood, because the Attribute of the Incident Proposition is not therein affirmed of the Subject to which the *who* relates. For if we say, for Instance, *That the Judges who never do any thing for Favour or Intreaty, are worthy of Applause*, we do not therefore say, that there is indeed any Judge upon Earth that is so perfect. Nevertheless I am apt to think there is always in those Propositions a tacit and virtual Affirmation, not of the actual Agreement of the Attribute with the Subject whereto the *who* relates, but of the possible Agreement; and if a Man is mistaken in this, I think it may reasonably be averred, that there is Falshood in these incident Propositions; as if one said, *The Minds which are square, are more solid than those which are round*, the Idea of *square* and of *round* being incompatible with the Idea of the *Mind* taken as the Principle of Thought, I am of Opinion those incident Propositions are to be accounted false.

Nay we may go so far as to say, that from thence proceed most of our Errors. For having in our Mind the Idea of a Thing, we often join to it another Idea with which it is really incompatible, tho' by our Error we thought them compatible; which makes us attribute to that Idea what cannot agree with it.

Thus finding in ourselves two Ideas, that of the Thinking Substance, and that of Extended Substance, it often happens, that when we consider our Soul, which is the Thinking Substance, we imperceptibly mix with it something of the Idea of Extended Substance, as when we imagine that our Soul must necessarily fill a Place as a Body does, and that it could not exist if it were no where, which are

Things that only suit the Body. And from hence proceeds that impious Error of those who believe the Soul to be mortal. There is an excellent Discourse of St. *Austin's* upon this Subject, in the 10th Book of the Trinity, where he shews that there is nothing easier to be known than the Nature of our Soul; but that what perplexes Men is this, that they are not satisfied with what they know of it without taking Pains which his, that it is a Substance which thinks, which wills, which doubts, which knows; but to what it is they join what it is not, endeavouring to imagine it under some of those Phantoms under which they are used to conceive Corporeal Things.

When on the other hand we consider the Body, we have much ado to help mixing with it something of the Idea of the Thinking Substance, which makes us say of heavy Bodies, that they *would* go to the Centre; of Plants, that they *seek* such Nourishment as is proper for them; of the Crisis of a Distemper, that it is Nature *endeavouring* to discharge herself of what is noxious to her, and of a thousand other Things, especially in our Body, that Nature *would* do this or that, tho' we are well assured, we ourselves did not *intend* any such thing, nor *think* of it in the least, and that it is ridiculous to imagine that there is in us some other Thing besides ourselves, which knows what is proper or hurtful to us, which seeks the one, and flies the other.

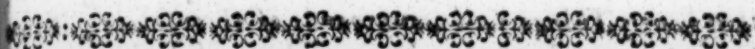
I believe it is to this Mixture of incompatible Ideas, that we are also to attribute all the Murmurings Men make against God. For it would be impossible to murmur against God, if we conceived him really such as he is, all powerful, all wise, all good. But wicked Men conceiving him as all powerful, and as the absolute Master of the Universe, attribute to him all the Misfortunes that happen to them; and indeed so far they are right; But because, at the same time, they

they con-
patible v
as if he v
Evils tho

Of Propo-
tion;
which

Besides
is a
comp'lex,
or Proposi-
Proposition
ation ex-
that the E-
Proposition
thing in
ble it mak-
Attribute
in it in an
in the fa-
round. So
which is e-
most in U-
the other
It is the
not true; c-
ports the
Astronomy

they conceive him cruel and unjust, which is incompatible with his Goodness, they fly out against him, as if he were in the wrong in inflicting upon them the Evils they endure.



C H A P. VIII.

Of Propositions Complex as to Affirmation or Negation; and of a Species of those Sorts of Propositions which the Philosophers call Modal.

BESIDES the Propositions whose Subject or Attribute is a complex Term, there are others which are complex, because there are in them incidental Terms or Propositions, which relate only to the Form of the Proposition, that is to say, to the Affirmation or Negation expressed by the Verb; as if I say, *I maintain that the Earth is round*; *I maintain* is only an incidental Proposition, which ought to make a Part of something in the principal Proposition; and yet it is visible it makes a Part neither of the Subject nor of the Attribute: For it does not make the least Alteration in it in any Respect; for it would be conceived exactly in the same manner, if I said barely, *the Earth is round*. So that this falls only upon the Affirmation, which is expressed in two Manners; the one which is most in Use by the Verb *is*, *the Earth is round*; and the other more expressed by the Verb *I maintain*.

It is the same, when we say, *I deny, It is true, It is not true*; or when in a Proposition we add what supports the Truth of it; as when I say, *The Reasons of Astronomy convince us, that the Sun is much bigger than the Earth*.

Earth. For this first Part is only the Support of the Affirmation.

Nevertheless it is of Moment to observe that some of this kind of Propositions are ambiguous, and may be taken differently, according to the Design of the Pronouncer; as if I say, *All the Philosophers assure us, that heavy Things fall downwards of themselves*; if my Design is to shew that heavy Things fall downwards of themselves, the first Part of this Proposition will be only incidental, and serve for nothing but to support the Affirmation of the last Part. But if on the contrary I mean only to relate that Opinion of the Philosophers, tho' I do not myself approve it, then the first Part will be the principal Proposition, and the latter will be only a Part of the Attribute. For what I affirm will not be that heavy Things fall downwards of themselves, but only that all the Philosophers assure us they do so. And it is easy to perceive that these two different Ways of taking this one Proposition do alter it in such a manner, that they are two different Propositions, and have two Meanings entirely different. But generally it is no hard thing to judge by what follows which of the two Senses we are to understand it in. For if, for Example, after having made that Proposition, I should add, *Now Stones are heavy, therefore they fall downwards of themselves*; it would be plain I took it in the first Sense, and that the first Part was only incidental: But if on the contrary I concluded thus; *Now this is an Error; and consequently it may happen that an Error may be taught by all the Philosophers*; it would visibly appear that I took it in the second Sense, that is to say, the first Part would be the principal Proposition, and the second would only be part of the Attribute.

Of these Complex Propositions, wherein the Complexity falls upon the Verb, and not upon the Subject nor upon the Attribute, the Philosophers have

particul
Modal,
fied by
impossibi
affirmed
ble, and
tive or
Earth is
fitions,
have de
ILLIACE
Mystery
four Mo

And the
or E, or
be affirme
which the
in this m

A. The
ti
E. The
ti
I. The
ti
V. The
ti

It woul
which are
PURPUR

particularly remarked those which they have called *Modal*, because the Affirmation or Negation is modified by one of these four Modes, *possible, contingent, impossible, necessary*. And because each Mode may be affirmed or denied, as, *it is impossible, it is not impossible*, and in either manner be joined with an affirmative or negative Proposition, *the Earth is round, the Earth is not round*, each Mode may have four Propositions, and the four together sixteen, which they have denoted by these four Words: *PURPUREA, ILIACE, AMABIMUS, EDENTULI*, whose whole Mystery is this; each Syllable stands for one of the four Modes:

The 1st *possible*.

The 2d *contingent*.

The 3d *impossible*.

The 4th *necessary*.

And the Vowel in every Syllable, which is either A, or E, or I, or V, shews whether the Mode ought to be affirmed or denied, and whether the Propositions which they call *Dictum* ought to be affirmed or denied, in this manner.

- A. The Affirmation of the Mode, and the Affirmation of the Proposition.
- E. The Affirmation of the Mode, and the Negation of the Proposition.
- I. The Negation of the Mode, and the Affirmation of the Proposition.
- V. The Negation of the Mode, and the Negation of the Proposition.

It would be loss of Time to produce Examples, which are easily found. We are only to observe that *PURPUREA* answers to the A of incomplex Pro-

positions; *ILIACE* to E. *AMABIMUS* to I. *EDENTULI* to V. and that so if we would have our Examples be exact, we must, after having pitched upon a Subject, take for *Purpurea* an Attribute which may be universally affirmed of it; for *Iliace*, one which may be universally denied of it; for *Amabimus*, one which may be particularly affirmed of it; and for *Edentuli*, one which may be particularly denied of it.

But whatever Attribute we take, it is always true that all the four Propositions of one and the same Words have only the same Sense; so that one being true, all the rest are so too.

~~~~~

## C H A P. IX.

### *Of the various Sorts of Compounded Propositions.*

**W**E have already said, that Compounded Propositions are such as have either a double Subject or a double Attribute. Now there are two Sorts thereof; the one, where the Composition is expressly marked, and the other where it is more concealed, and which the Logicians for that Reason call *Exponibiles*, i. e. which want Exposition or Explanation.

Those of the first Sort may be reduced to five kinds, Copulatives and Disjunctives, Conditional and Causal, Relative and Discretive.

### *Of the C O P U L A T I V E S.*

Copulatives are those which include either several Subjects or several Attributes joined together by an Affirmation

firmation  
and or n  
and in th  
and with  
not upo  
joins; as  
make a N  
affirming  
py; as m  
make a N  
We m  
tions :

I. V

Life an

2. V

A  
D  
S  
—

He tha  
all Respe  
stately Pa

S  
A  
P

A well  
and in go

3. V

affirmation or negative Conjunction. that is to say, by *and* or *neither*; for *neither* serves the same Purpose as *and* in this kind of Propositions, since *neither* signifies *and* with a Negation which falls upon the Verb, and not upon the Union of the two Words which it joins; as if I say, *That Knowledge and Wealth do not make a Man happy*, I unite Knowledge to Wealth, in affirming of both that they do not make a Man happy; as much as if I said, that Knowledge and Wealth make a Man vain.

We may distinguish three Sorts of these Propositions :

1. When they have several Subjects.

*Mors & Vita in manibus Linguae.*

Life and Death are in the Power of the Tongue.

2. When they have several Attributes.

*Auream quisquis mediocritatem  
Diliget, tutus caret obsoleti  
Sordibus tecti, caret invidenda  
——— Regibus aula.*

He that loves Mediocrity, which is so valuable in all Respects, lives neither in a dirty Cottage, nor in a stately Palace.

*Sperat infaustis, metuit secundis,  
Alteram sortem, bene preparatum  
Pectus. ———*

A well formed Mind in bad Fortune hopes for good, and in good Fortune fears the bad.

3. When they have several Subjects, and several Attributes.



*Non domus & fundus, non aris acervus & auri,  
Aegroti Domini deduxit corpore febres,  
Non animo curas.*——

Neither Houses nor Lands, nor Heaps of Gold and Silver, can either expel a Fever from the Body of him that possesses them, nor free his Mind from Anxiety and Uneasiness.

The Truth of these Propositions depends upon the Truth of both the Parts. Thus, if I say, Faith and good Life are necessary to Salvation, I say true, because both the one and the other are certainly necessary to it; but if I said, good Life and Wealth are necessary to Salvation, that Proposition would be false, tho' good Life is necessary to it, because Wealth is not so.

The Propositions which are consider'd as negative and contradictory, in respect of the Copulatives and of all the other compounded Propositions, are not all those in general that contain Negations, but only those wherein the Negation falls upon the Conjunction, which happens several Ways, as by putting the *non* at the Head of the Proposition: *Non enim amas & deseris*, says St. *Austin*, that is to say, you are not to believe that you love your Friend if you desert him.

For it is also in this Manner, that a Proposition is made contradictory to the Copulative, by expressly denying the Conjunctions; as when we say, It cannot be that a Thing should be this and that at the same time.

That we cannot be in love and be wise.

*Amare & sapere vix Deo conceditur.*

That

That Love and Majesty do not suit with each other.

*Non bene conveniunt, nec in una sede morantur  
Majestas & Amor.*——

### DISJUNCTIVES.

The Disjunctives are of great Use, and these are such as admit of the disjunctive Conjunction, *vel*, or :

Friendship either finds Friends equal, or makes them so.

*Amicitia pares aut accipit, aut facit.*

A Woman either loves or hates, there is no Medium.

*Aut amat aut odit mulier, nihil est tertium.*

He that lives in a perfect Solitude is either a Beast, or an Angel, (says *Aristotle*.)

Men act only upon Interest, or upon Fear.

The Earth either turns about the Sun, or the Sun about the Earth.

Every Action done upon Deliberation is good or bad.

The Truth of these Propositions depends upon the necessary Opposition of the Parts, which ought not to admit of a Medium. But as in order to be necessarily true they can admit of none at all, they may be looked upon as morally true, if only they do not admit of any for the Generality. Thus it is absolutely true, that an Action done upon Deliberation is either good or bad, the Divines proving that not one in

particular is indifferent; but when it is said, that Men act only upon Interest or upon Fear, this is not absolutely true, since there are some that act upon neither of those Passions, but upon the Consideration of their Duty: So that all the Truth which can be in that Proposition is, that those are the two Springs which govern the Actions of most Men.

Propositions contradictory to the Disjunctives are those wherein the Truth of the Disjunction is denied, which is done in Latin, as in all the other compound Propositions, by putting the Negation at the Head; *Non omnis actio est bona vel mala*: And in our Language, *It is not true, that every Action is good or bad.*

### CONDITIONALS.

The Conditionals are those which have two Parts tied together by the Condition *if*; the first of which Parts, which is that where the Condition lies, is called the Antecedent, and the other the Consequent: *If the Soul is spiritual, (that is the Antecedent) it is immortal, (that is the Consequent.)*

This Consequence is sometimes mediate and sometimes immediate: It is only mediate, when there is nothing in the Terms of either Part that ties them together; as if I say,

If the Earth is without Motion, the Sun turns round.

If God is just, the Wicked are punished.

These Consequences are very good; but they are not immediate, because the two Parts have no common Term, and are ty'd together only by what we have in our Mind, and which is not expressed. That the Earth and Sun being continually in different Situations with Respect to each other, it must necessarily be,

be, that move.

When must hap

1. Eit  
jed

If De

If you

2. Or

If all  
ought to

3. Or  
Sub

4. Or  
the  
hap

If all  
There

The T  
in the T  
Parts w  
rother l  
tional,

If the  
absolute  
God i

be, that if one is without Motion, the other must move.

When the Consequence is immediate, it generally must happen;

1. Either that the two Parts have but one Subject:

*If Death is a Passage to a happy Life, it is desirable.*

*If you omitted to feed the Poor, you killed them.*

*Si non pavisti occipisti.*

2. Or that they have the same Attribute:

*If all God's Tryals ought to be dear to us, Discomps ought to be so.*

3. Or that the Attribute of the first Part be the Subject of the second:

*If Patience be a Virtue,  
There are painful Virtues.*

4. Or lastly, that the Subject of the first Part be the Attribute of the second, which can never happen but when that second Part is negative:

*If all true Christian live according to the Gospel,  
There are but few true Christians.*

The Truth of these Propositions is looked for only in the Truth of the Consequence; for even tho' both Parts were false, yet if the Consequence from one to the other be good, the Proposition, as far as it is Conditional, is true; as,

*If the Will of the Creature is capable of hindering the  
absolute Will of God from being accomplished,  
God is not Omnipotent.*

The



The Propositions consider'd as negative and contradictory to the conditional, are those only wherein the Condition is denied; which is done in Latin by putting a Negation at the Head:

— *Non si miserum fortuna Sinonem  
Finxit, vanum etiam mendacemque improba finget.*

But in our Tongue we express the Contradictories by an *Altho'* and a Negation:

*If ye eat of the forbidden Fruit ye shall dye.  
Altho' ye do eat of the forbidden Fruit, ye shall not dye.*

Or else by, *It is not true.*

*It is not true, that if ye eat of the forbidden Fruit,  
ye shall dye.*

### Of the CASUALS.

The Casuals are those which contain two Propositions ty'd together by a Word implying a Cause, *quia*, *because*, or *ut*, to the Intent that.

*Wo be to the Rich, because they have their Comfort in  
this World.*

*All Men are raised high, to the Intent that their Fall  
be the greater.*

*Tolluntur in altum,  
Ut lapsu graviore ruant.*

*They can, because they think they can.*

*Possunt, quia posse videntur.*

*Such a Prince was unfortunate, because he was born  
under such a Constellation.*

We m  
positions

It is n  
that one  
which al  
the othe  
Cause, a  
be true,  
if one o  
Thus a l  
born un  
false tha  
under th

So tha  
ries of  
Thing t  
quia sub

The I  
parison  
Where  
As a

Thou  
thy We

The  
Relatio  
Relatio

We

We may also reckon in the Number of these Propositions those which are called *Reduplicatives*.

*Man, as Man, is Reasonable.*

*Kings, as Kings, depend upon God only.*

It is necessary, for the Truth of these Propositions, that one of the Parts be the Cause of the other; which also makes it necessary that both the one and the other must be true; for what is false cannot be a Cause, and can have no Cause; but both Parts may be true, and yet the Causal be false, because it is so if one of the Parts be not the Cause of the other. Thus a Prince may have been unfortunate, and also born under such a Constellation; and yet it may be false that he was unfortunate, because he was born under that Constellation.

So that it is in this properly, that the Contradictories of these Propositions consist, that we deny one Thing to be the Cause of the other: *Non ideo infelix, quia sub hoc natus fidece.*

### The RELATIVES.

The Relatives are those which include some Comparison and some Relation:

*Where the Treasure is, there is the Heart also.*

*As a Man lives, so he dies.*

*Tantis, quantum habeas.*

Thou art esteemed in the World in Proportion to thy Wealth.

The Truth here depends upon the Justness of the Relation; and they are contradicted by denying the Relation:

*It is not true, that as a Man lives, so he dies.*

*It is not true, that a Man is esteemed in the World in Proportion to his Wealth.*

### The DISCRETIVES.

Discretives are those wherein we make different Judgments, denoting that Difference by the Particles *sed, but; tamen, yet; or the like Words* expressed or understood.

*Fortuna opes auferre, non animum potest.*

Fortune may take away Wealth, but not Virtue.

*Et mihi res, non me rebus submittere conor.*

I would set myself above Riches, not to be a Slave to them.

*Cælum non animum mutant qui trans mare currunt.*

Those that cross the Seas change only their Climate, not their Disposition.

The Truth of this kind of Propositions depends upon the Truth of both the Parts, and upon the Separation made between them. For tho' both the Parts were true, a Proposition of this sort would be ridiculous, if there were no Opposition between them; as if I should say,

*Judas was a Thief, and yet he would not suffer Mary Magdalen to pour her Perfumes upon JESUS CHRIST.*

There may be several Contradictories of a Proposition of this Sort; as if one said,

*Happiness does not depend on Wealth, but upon Knowledge.*

This

This  
Ways:

Happi  
ledge.

Happi

Happi

Thus v  
of Discre  
Copulati

~~~~~

Of

T Here
Con
be reduc
cessi; es;

Exclus
agrees w
only Sub
agrees w
they inc
quently
is what
some oth
his own

That
Sake, an

This Proposition might be contradicted all these Ways:

Happiness depends upon Wealth, and not upon Knowledge.

Happiness depends neither upon Wealth nor Knowledge.

Happiness depends upon Wealth and Knowledge.

Thus we see, that the Copulatives are contradictory of Discretives; for these two last Propositions are Copulative.



CHAP X.

Of Propositions compounded in the Sense.

There are other compounded Propositions, whose Composition lies more concealed, and they may be reduced to these four Sorts: 1. *Exclusives*; 2. *Expositives*; 3. *Comparatives*; 4. *Inceptives* or *Desitives*.

Of the EXCLUSIVES.

Exclusive are those which denote, that an Attribute agrees with a Subject, and that it agrees with that only Subject, which is all one as to denote that it agrees with no other: From whence it follows that they include two different Judgments, and consequently that they are compounded in the Sense. This is what is expressed by the Word only or alone, or some other like it; as, God alone is to be beloved for his own Sake.

Deus solus fruendus, reliqua utenda.

That is to say, we ought to love God for his own Sake, and other Things only for the Sake of God.

Quas

Quas dederis solas semper habebis opes.

The only Riches that will always stay with thee, are those which thou hast generously given away.

Nobilitas sola est atque unita virtus.

Virtue is the only true Nobility.

Hoc unum scio quod nihil scio; said the Academicians.

It is certain that there is nothing certain; and there is nothing but Obscurity and Uncertainty in every Thing else.

Lucan speaking of the Druids, makes this disjunctive Proposition compounded of two Exclusives,

*Solis nosce deos, & cæli numina vobis,
Aut solis nescire datum est.*

Either you know the Gods, tho' to every Body else they are unknown:

Or else they are unknown to you only, tho' every Body else knows them.

These Propositions are contradicted in three Manners. For,

1. It may be denied, that what is said to agree with one only Subject, does agree with it in any wise.

2. It may be affirmed, that this agrees with some other thing.

3. Both the one and the other may be maintained.

Thus against this Sentence, *Virtue is the only true Nobility*, it may be said;

1. That

1. That Virtue does not give Nobility.
2. That Birth as well as Virtue gives Nobility
3. That Birth and not Virtue gives Nobility.

So this Maxim of the Academicians, *That this is certain that there is nothing certain*, was contradicted differently by the Dogmatics and by the Pyrrhonists. For the Dogmatics opposed it, by maintaining that it was doubly false, because there were several Things that we know very certainly, and that therefore it was not true that it was certain we knew nothing: And the Pyrrhonists also said it was false for a contrary Reason, which was, that every thing was so uncertain, that it was even uncertain whether there was nothing certain.

Wherefore there is a Defect of Judgment in what *Lucan* says of the Druids, because there was no Necessity that the Druids alone should be true in their Opinion relating to the Gods, or that they alone should be in Error: For as there might be various Errors touching the Nature of God, it might very well be, that tho' the Druids had Thoughts relating to the Nature of God that were different from those of other Nations, they might be no less mistaken than other Nations.

What is most remarkable here is, that often there are Propositions which are exclusive in the Sense, tho' the Exclusion be not expressed: So this Verse of *Virgil*, where the Exclusion is expressed,

Una salus victis nullam sperare salutem,

may be very well translated into our Tongue so as to have the Exclusion understood: *The Safety of the Vanquished is to expect none.*

Nevertheless it is much more usual in *Latin* than in *French* to have the Exclusions understood: So that often

often there are Passages which cannot be translated in their full Strength, without making exclusive Propositions of them, tho' in Latin the Exclusion be not expressed.

Thus, 2 Cor. 10. 17. *Qui gloriatur, in Domino gloriatur*, ought to be translated, He that glorieth, let him glory in the Lord only.

Galat. 6. 7. *Qua seminaverit homo, hac & metet*: Whatsoever a Man soweth, that only shall he reap.

Ephes. 4. 5. *Unus Dominus, una fides, unum baptisma*: There is only one Lord, one Faith, one Baptism.

Matth. 5. 46. *Si diligitis eos qui vos diligunt, quam mercedem habebitis?* If ye love them only which love you, what Reward will ye deserve?

Seneca in the *Troas*; *Nullas habet spes, Troja, tales habet*. If Troy has this Hope only, she has none; as if it were, *si tantum tales habet*.

2. Of the E X C E P T I V E S.

The Exceptives are those wherein we affirm a Thing of a whole Subject, excepting only some of the Inferiors of that Subject, to which we shew by some exceptive Participle this Thing does not agree; which manifestly includes two Judgments, and so makes these Propositions compounded in the Sense; as if I say,

All the Sects of the ancient Philosophers, except that of the *Platonists*, did not believe God to be incorporeal.

This means two Things: First, That the ancient Philosophers believed God to be corporeal: Secondly, That the *Platonists* believed the contrary.

Avarus nisi cum moritur, nihil recte facit.

The Miser can do no good Action, except dying.

Et miser nemo, nisi comparatus.

No Man thinks himself wretched, but when he compares himself to those that are more happy.

Nemo ledetur nisi a seipso.

We have no Misfortunes but what we owe to our own Imprudence.

Except the Wise Men, said the Stoics, all Men are mere Fools.

These Propositions are contradicted in the same Manner as the Exclusives.

1. By maintaining, that the Stoics Wise Man was as much a Fool as the rest of Mankind.

2. By maintaining, that others besides that Wise Man were free from Folly.

3. By pretending, that this Wise Man of theirs was a Fool, and other Men not so.

We are to observe, that the Exclusive and the Exceptive Propositions are almost the very same Thing, only expressed a little differently; so that it always is very easy to change them reciprocally into each other. And thus we see this Exceptive of Terence,

Imperitus nisi quod ipse facit, nil rectum putat,

has been changed by Cornelius Gallus into this Exclusive.

Hoc tantum rectum quod facit ipse putat

3. Of

3. Of the COMPARATIVES.

The Propositions wherein we make a Comparison include two Judgments; for it is one to say, that a Thing is so and so, and another to say that it is more or less so than some other Thing; and therefore this sort of Propositions are compounded in the Sense.

Amicum perdere, est damnorum maximum.

To lose a Friend is the greatest of Losses.

————— *Ridiculum acri*

Fortius ac melius magnas plerumque secat res.

Many times an agreeable Raillery makes a deeper Impression even in the most important Things, than better Arguments would do.

Meliora sunt vulnera amici, quam fraudulenta oscula inimici.

The Wounds of a Friend are better than the deceitful Kisses of an Enemy.

These Propositions are contradicted several ways, as for Instance, this Maxim of *Epicurus*, *Pain is the greatest of all Evils*, was contradicted one way by the Stoics, and another by the Peripatetics; for the Peripatetics confessed that Pain was an Evil, but maintained that Vice and the other Irregularities of the Mind were much greater Evils: Whereas the Stoics would not so much as acknowledge that Pain was any Evil at all, so far were they from confessing it to be the greatest of Evils.

But here we may handle a Question, which is, Whether it is always requisite that in these Propositions the Positive of the Comparative agree with both the Members of the Comparison? And if, for Instance, we are obliged to suppose that two Things are good, before we can say that one is better than the other.

It seems at first that it should be so; but we find it otherwise in Practice; for we see the Scripture makes use of the Word *better* not only in comparing two Goods together; *Melior est sapientia quam vires*, & *vir prudens quam fortis*; Wisdom is better than Strength, and the prudent Man than the strong Man: But also in comparing a Good to an Evil; *Melior est patientia arrogante*; A patient Man is better than a proud: Nay in comparing two Evils together; *Melius est habitare cum dracone quam cum muliere litigiosa*; It is better to dwell in the House with a Dragon, than with a scolding Woman. And in the Gospel, *It is better for a Man to be thrown into the Sea with a Millstone about his Neck, than to give Scandal to the least of the Faithful*.

The Reason of this Practice is, that a great Good is better than a less, because it contains more than a less. Now for the same Reason we may say, tho' with less Propriety, that a Good is better than an Evil, because what has any Goodness in it, has more Goodness than what has none at all. And we may likewise say, that a less Evil is better than a greater Evil, because the Diminution of the Evil being something of a Good in Misfortunes, that which is less bad has more of that sort of Goodness than that which is worse.

We should therefore take care not to let the Heat of a Dispute carry us into impertinent Perplexities, nor to wrangle about these Forms of speech, as a Donatist Grammarian named *Cresconius* did

did in Writing against St. *Austin*; for that Saint having advanced, that the Catholics had more Reason to upbraid the Donatists with having disavowed the sacred Books, than the Donatists had to upbraid the Catholics with having so done, *Traditionem nos vobis, probabilius objicimus*; *Cresconius* imagined he might justly conclude from those Words, that St. *Austin* allowed that the Donatists had some Reason to upbraid the Catholics with it: *Si enim vos probabilius*, said he, *nos ergo probabiliter*; *nam gradus iste quod anteposuit est auget, non quod antedictum est imminuat*. But St. *Austin* first confutes this idle Subtility by Examples drawn from Scripture, and among others by that Passage of the Epistle to the *Hebrews*, where St. *Paul* having said, that the Earth which bears only Thorns is accurst, and can expect nothing but the Fire, he adds, *Constatimus autem de vobis, fratres clarissimi, meliora*: *Non quia*, says that Father, *bona illa erant quae supra dixerat, proferre spinas & tribulos, & usionem mereri, sed magis quia mala erant, ut illa devitalis meliora eligerent & optarent, hoc est malitiae bonis contraria*: And afterwards shews him, out of the most celebrated Authors of his own Art, how false his Consequence was, since *Virgil* might in the same manner be upbraided with having believed the Violence of a Distemper to be a good Thing, even when it is so great as to enrage Men to tear their own Flesh with their Teeth, because he wishes better Fortune to good Men:

*Dii meliora piis, erroremque hostibus illum;
Discissos nudis laniabant dentibus artus.*

Quomodo ergo meliora piis, says that Father, *quod bona essent istis, ac non potius magna mala qui discissos nudis laniabant dentibus artus.*

Of the

When
to, we m
Thing was
of what i
rions, w
other Desi
they are so
ort of the

1. The
ish Capti
Charact
amaritan.
2. The
Italy ab
3. The
gin to ma

These P
ther of t
thus ther
retending
ays had t
se them i
mple;
the othe
atter Date

A

Tho' we
ptives, &
is never t

Of the INCEPTIVES or DESITIVES.

When we say a Thing begins or ceases to be so or so, we make two Judgments; one, of what that Thing was before the Time we speak of; the other, of what it is afterwards; and therefore these Propositions, whereof the one are called Inceptive, and the other Desitive, are compounded in the Sense; and they are so alike, that it is better to make but one Sort of them, and to handle them both together.

1. *The Jews, after their Return from the Babylonish Captivity, began to lay aside their ancient Letters or Characters, which are those that we now call the Samaritan.*
2. *The Latin Tongue ceased to be vulgarly spoken in Italy about 500 Years ago.*
3. *The Jews did not till the fifth Century after Christ begin to make use of Points to denote the Vowels.*

These Propositions are contradicted according to either of the Relations to the two different Times. Thus there are some that contradict this latter, by pretending, tho' without Grounds, that the Jews always had the Use of Points, at least so far as to suppose them in reading, and that they were kept in the Temple; and others contradict it, by pretending, on the other hand, that the Use of Points is even of later Date than the fifth Century.

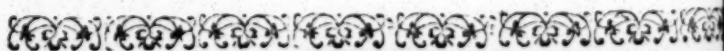
A General REFLECTION.

Tho' we have shewed, that these Exclusives, Exemptives, &c may be contradicted in several Manners, it is nevertheless true, that when we barely deny them with

without explaining ourselves further, the Negation naturally falls upon the Exclusion, or Exception, or Comparison, or the Change denoted by the Words of beginning and ceasing. For which Reason if a Man believed that *Epicurus* did not place the chief Good in the Pleasures of the Body, and that he were told that *Epicurus alone places the chief Good in those Pleasures*; if he barely deny'd it, without adding anything further, it would not be a full Declaration of his Thoughts, because from that bare Negation it might reasonably be inferred, that he grants that *Epicurus* did indeed place the chief Good in the Pleasures of the Body; but that he does not believe him to have been the only Philosopher of that Opinion.

In like manner, if a Person that knew the Integrity of a Judge should ask me, *Whether he does not sell Justice still?* I could not barely answer *No*, because the *No* would signify that he does not sell it still: but at the same time leave it for allowed that he sold it formerly.

And by this it appears that there are some Propositions, which it would be unjust to require a Man to answer by a simple Yes or no; because as they include two Senses, he could not make a direct Answer to them, unless he explain'd himself particularly upon both.



CHAP. XI.

Observations to distinguish in some Propositions expressed after a less usual manner, which is the Subject and which is the Attribute.

IT is certainly a Fault in the common Logic not to accustom Learners to distinguish the Nature of Propositions and Arguments any other way than

confining
they are
different
World,
lity, or

Thus
and of a
of a Pro
versality
is omnis
some.

But th
of Error
Things i
Subject a

The o
of the P
firmed:
latter th
they will

Thus t
such Pro
It is a sh
it is man
is affirme
Obsequi

which is
verred t
ect. So
tum suffi
be, Picta

Feli.
Atq
Subj

confining them to the Order and Disposition wherein they are formed in the Schools, which often is very different from that wherein they are formed in the World, and in Books either of Eloquence or Morality, or any other Science.

Thus they have hardly any other Idea of a Subject and of an Attribute, than that one is the first Term of a Proposition, and the other the last; and of Universality or Particularity, than that in the one there is *omnis* or *nullis*, *all* or *none*, and in the other *aliquis*, *some*.

But this is by no means enough to keep them out of Errors, and it requires Judgment to discern these Things in several Propositions. Let us begin with the Subject and Attribute.

The only and true Rule is to observe by the Sense of the Period what is affirmed of, and what is affirmed: For the first is always the Subject, and the latter the Attribute, let them stand in what Order they will.

Thus there is nothing more common in Latin than such Propositions as these: *Turpe est obsequi libidini*; It is a shameful thing to be a Slave to our Passions: Where it is manifest by the Sense that *turpe*, *shameful*, is what is affirmed, and is consequently the Attribute; and *Obsequi libidini*, to be a Slave to our Passions, is that which is affirmed of, that is to say, that which is ascribed to be shameful, and is consequently the Subject. So again in St. Paul, *Est quæstus magnus pietus cum sufficientia*; the true Order of the Words should be, *Pietas cum sufficientia est quæstus magnus*.

And in these Verses:

*Felix qui potuit rerum cognoscere causas.
Atque metus omnes & inexorabile fatum
Subjecit pedibus strepitumque Acherontis avari.*

Felix is the Attribute, and all the rest the Subject.

The Subject and Attribute are yet more difficult to be found out in Complex Propositions; and we have already seen, that it is sometimes impossible to judge which is the principal Proposition, and which the incident, otherwise than by the Sequel of the Discourse, and the Intention of the Author.

But besides what we have already said, we may further observe, that in these Complex Propositions, where the first Part is only the incident Proposition, and the last the principal, as in the Major and Conclusion of this Argument:

God commands us to honour Kings.

Louis XIV. is King:

Therefore God commands us to honour Louis XIV.

We are often obliged to change the Verb Active into a Verb Passive, to discover the true Subject of this principal Proposition, as in this very Example: For it is manifest that when I argue in this Manner, my principal Intention in the Major is to affirm something of Kings; from whence I may infer that we are to honour *Louis XIV.* and thus what I say of God's Command is properly no more than an incident Proposition, confirming this Affirmation, *Kings ought to be honoured; Reges sunt honorandi.* From whence it follows, that the Word *Kings* is the Subject of the Major, and *Louis XIV.* the Subject of the Conclusion; tho' upon a superficial View, each seems to be only a Part of the Attribute.

The following also are Propositions very common in our Language; *It is a Folly to hearken to Flattery; It is Hail that falls; It is a God that redeemed us.* Now the Sense here too evinces us, that to place them in their natural Order, by putting the Subject before the Attribute, we should express them thus; *To hearken*

to Flatter
redceme
the Pr
terward
tribute
End. I
it once
that we
by the C
sary Cau
gisms v
cause fo
the Sub
think th
formable

Of con

It is o
of wh
here a R
greater C
viceable
It is, t
some Ref
Place, an
sensible D
them whe
less do no
course, bu
which do
they have
were one

to Flatterers is a Folly; That which falls is Hail; He that redeemed us is God. And this is almost universal in all the Propositions which begin by *it is*, and where afterwards follows a *which* or a *that*, to have their Attribute at the Beginning, and their Subject at the End. It had been enough to have given Notice of it once; and all these Examples are only to shew that we are to judge of them by the Sense, and not by the Order of the Words: Which is a very necessary Caution not to be mistaken in believing Syllogisms vicious, which in Effect are very perfect; because for want of discerning in Propositions, which is the Subject and which the Attribute, we are apt to think them contrary to the Rules when they are conformable to them.



C H A P. XII.

Of confused Subjects equivalent to two Subjects.

IT is of Use to the better understanding the Nature of what is called the *Subject* in Propositions, to add here a Remark which hath been made in Works of greater Consequence than this, but which being serviceable to Logice, may also find a Place.

It is, that when two or more Things which have some Resemblance succeed one another in the same Place, and chiefly when there does not appear any sensible Difference in them, tho' Men may distinguish them when they speak metaphysically; they nevertheless do not distinguish them in their ordinary Discourse, but uniting them under one common Idea, which does not shew their Difference, but only what they have in common, they speak of them as if they were one and the same Thing.

Thus tho' we change our Air every Moment, yet we look upon the Air which surrounds us to be always the same; and we say that from Cold it is grown Hot, as if it were the same; whereas oftentimes that Air which we feel Cold is not the same with that which we feel Hot.

Again, this Water, say we, speaking of a River, was two Days ago rough and muddy, and now behold it is as clear as Christal: Yet what we speak of is very far from being the same Water. *In idem flumen his non descendimus*, says *Seneca*, *manet idem fluminis nomen, aqua transmissa est*.

We consider and speak of the Body of Animals as if they were always the same; tho' we are not assured that at the end of a few Years they retain the least Particle of the Matter whereof they at first consisted: And we speak of them as of one and the same Body, not only without Reflection, but even when we expressly turn our Thoughts to that Subject. For the usual Phrase of Speech allows us to say, The Body of this Animal ten Years ago consisted of certain Parts of Matter, and now it consists of quite different Parts. There seems to be a Contradiction in this way of speaking; for if the Parts are quite different, it is not then the same Body. It is true; but yet People speak of it as of the same Body. And what makes these Propositions true, is, that the same Term is taken for different Subjects in this different Application.

Augustus said of the City of *Rome*, that he found it of Brick, and left it of Marble. So too we say of a Town, of a House, of a Church, that it was destroyed at such a Time, and rebuilt at such another time. What then is this *Rome*, which is Brick in one Age, and Marble in another? What are these Towns, these Houses, these Churches, which are destroyed at one time, and rebuilt at another? Was this *Rome* which was of Brick the same *Rome* that is now of Marble?

Marble?
certain
those
and of
draws
that
was of
seems
denote
the conf
from per
It is
of the B
does diff
testant M
Proposit
ever hav
common
were a F
understo
burnt a
burnt te
So neith
the least
This wh
other M
those dif
the rebu
But the
dy of Cl
ject, exp
in realir
a Unity
one certa
ther, in
Church b
Idea of
Attributo
ject.

Marble? No; but yet the Mind forms to itself a certain confused Idea of *Rome*, to which it ascribes those two Qualities of being of Brick at one time, and of Marble at another. And when afterwards it draws it into Propositions, and says, for Instance, that *Rome* which was of Brick before *Augustus's* Time, was of Marble when he died; the Word *Rome* which seems to be no more than one Subject, does indeed denote two that are really distinct, tho' united under the confused Idea of *Rome*, which hinders the Mind from perceiving the Distinction of those Subjects.

It is by means of this Distinction that the Author of the Book from whence we borrow'd this Remark, does disentangle the affected Perplexity which the Protestant Ministers are mighty fond of observing in this Proposition, *This is my Body*, which no Mortal would ever have observed, had he only follow'd the Light of common Sense. For as none would ever aver that it were a Proposition very perplexed and very difficultly understood, to say of a Church which should be burnt and afterwards rebuilt; This Church was burnt ten Years ago, and has been rebuilt a Year. So neither can it reasonably be averred, that there is the least Difficulty in understanding this Proposition; *This which is Bread at this Moment, is my Body in this other Moment*. It is true, it is not the same *this* in those different Moments, as the burnt Church and the rebuilt Church are not really the same Church: But the Mind conceiving both the Bread and the Body of Christ under one common Idea of present Object, expressed by *this*, ascribes to this Object, which in reality is double, and which is made one only by a Unity of Confusion, the Quality of being Bread in one certain Moment, and the Body of Christ in another, in the same manner as having formed of this Church burnt and this Church rebuilt, one common Idea of Church, it give to this confused Idea two Attributes, which cannot agree with the same Subject.

From hence it follows, that there is no Difficulty in this Proposition, *This is my Body*, taken in the Sense of the Catholics; since it is only an Abridgment of this other Proposition which is perfectly clear; *This which is Bread in this Moment, is my Body in this other Moment*; and that the Mind supplies all that is not expressed. For, as we remarked at the End of the first Book, when the demonstrative Pronoun *this* is used to denote any Thing that falls under the Senses, the Idea formed by the Pronoun being confused, the Mind adds to it clear and distinct Ideas from the Operations of the Senses, by way of an incident Proposition. Thus Christ pronouncing the Word *this*, the Mind of the Apostles added to it, *which is Bread*; and as they conceived that it was Bread in that Moment, they also made the Addition of that Time. And thus the Word *this* formed this Idea, *This which is Bread in this present Moment*. So again when he said, that *this was his Body*, they conceived that *this was his Body in that Moment*. Thus the Expression, *this is my Body*, formed in their Mind this total Proposition: *This which is Bread in this Moment, is my Body in this other Moment*; and this Expression being clear, the Abridgment of the Proposition diminishing nothing of the Idea, is so too.

And as to the Difficulty propounded by the Ministers, that one and the same Thing cannot be Bread and the Body of Christ too, as it regards the extended Proposition; *This which is Bread in this Moment, is my Body in this other Moment*, as much as it does the abridged Proposition, *This is my Body*; it is evident, that it is no better than a Piece of Chicanery, and as frivolous as what might be alledged against these Propositions; This Church was burnt at such a Time, and rebuilt at such other Time; and that they are all to be distinguished by this way of conceiving several distinct Subjects, under one and the same Idea, which makes the same Form be taken at one Time

Time for
without
from on

For
that imp
these W
or real
a Propo
is also m
in that
by the I
ly infist
bly beau
shew he
hath no
and con
all Men



Other

SOME
nece
and Par

I. O
Sorts of
Metaph
I call
versalite
Man is
And
admit c

Time for one Subject, and at another for another without any Perception in the Mind of this Passage from one Subject to another.

For the rest, we do not here pretend to decide that important Question, How we are to understand these Words, *This is my Body*, whether in a figurative or real Sense? For it is not enough to prove that a Proposition can be taken in a certain Sense; it is also necessary to prove, that it ought to be taken in that Sense. But as there are some Ministers who, by the Principles of a very false Logic, do obstinately insist, that the Words of Jesus Christ cannot possibly bear the Catholic Sense, it was not improper to shew here compendiously, that the Catholic Sense hath nothing in it but what is perspicuous, reasonable, and conformable to the Way of speaking common to all Men.

C H A P. XIII.

Other Observations to discover whether Propositions are Universal or Particular.

SOME Observations of the like Nature, and no less necessary, may be made concerning Universality and Particularity.

I. OBSERVATION We are to distinguish two Sorts of Universality; the one which may be called Metaphysical, and the other Moral.

I call it a Metaphysical Universality, when a Universality is perfect and without Exception, as *every Man is living*, which admits of no Exception.

And I call Moral Universality, that which does admit of some Exception; because in Moral Things

we are satisfied if Things are generally so, *ut plurimum*, as what St. Paul approves and quotes :

Cretenses semper mendaces, mala bestiae, ventres figuri.

Or what the same Philosopher says ; *Omnia quae sua sunt querunt, non quae Jesu Christi.*

Or what Horace writes ;

*Omnibus hoc Vitium est cantoribus, inter amicos,
Ut nunquam inducant animum cantare rogati,
Injussi nunquam desistant.*

Or the common Sayings ;

*That all Women love to prate :
That all young People are inconstant.
That all old Men commend Times past.*

It suffices in all Propositions of this kind, that it is so for the most Part ; and on the other hand nothing ought to be rigorously concluded upon such a Principle.

For as these Propositions are not so general as to bear no Exceptions, such a Conclusion may happen to be false. As it could not be concluded of every Cretan in particular that he was a Lyar and an evil Beast, tho' the Apostle approves in general this Verse of one of their Poets ; *The Cretans are always Lyars, evil Beasts, Gluttons* ; because some Persons of that Island might not be guilty of the Vices which were common to the rest.

Therefore the Moderation to be observed in these Propositions, which are but morally universal, is, of the one hand, never to draw particular Inferences from them without great Judgment : and, of the other, not to reject them for false, altho' some Instances

stances
good ;
stretched
understo

II. O
tions th
versal, t
common
looked u
as if I sa
sition ou
it woul
there ha
kon'd M
sible tha
of Mon
the Ord
like ma
Sounds
make us
ble Obj
Men, be
directly
derstood
struction
on accou
deaf Pe
dumb.

III. C
sitions w
be under
guis gen
say, of a
Particul
Animals
every Sp

stances may be produced wherein they do not hold good; but to content ourselves if we hear them stretched too far, with shewing they are not to be understood in so strict a Sense.

II. OBSERVATION. There are some Propositions that ought to be accounted metaphysically universal, tho' they may admit of Exceptions, when in common use those extraordinary Exceptions are not looked upon to be comprized in the Universal Terms as if I say, *All Men have but two Arms*; this Proposition ought to be accounted true in common use., And it would be mere cavilling to alledge against it, that there have been Monsters who have always been reckoned Men, tho' they had four Arms; because it is visible that in these general Propositions we do not speak of Monsters, and that we only mean, that according to the Order of Nature Men have but two Arms. In like manner we may say, that all Men make use of Sounds to express their Thoughts, but that all do not make use of Writing. And it would be no reasonable Objection to instance for the contrary in dumb Men, because it sufficiently appears, tho' it be not directly expressed, that this Proposition is to be understood only of those who have no natural Obstruction to their making use of Sounds, either upon account of their being unable to learn them, as deaf People, or of being unable to form them, as dumb.

III. OBSERVATION. There are some Propositions which are Universal only because they are to be understood *de generibus singulorum*, and not *de singulis generum*, as the Philosophers speak; that is to say, of all the Species of each Genus, and not of all the Particulars of those Species. Thus we say, that all Animals were saved in Noah's Ark, because some of every Species were saved. Christ says also of the

Pharisees, that they paid the Tenth of all Herbs, *decimatus omne olus*; not that they paid the Tenths of all the Herbs in the World; but because there was no Sorts of Herbs some whereof they did not pay the Tenth of. Thus St. Paul says, *Sicut & ego; omnibus per omnia placeto*. That is to say, he framed himself to the Humours of all Sorts of Men, Jews, Gentiles, Christians, even tho' he did not strive to please his Persecutors, who were so very numerous. And so again we say of a Man, that *he has gone thro' all Offices*, that is to say, thro' all Sorts of Offices.

IV. OBSERVATION. There are some Propositions which are Universal only because the Subject ought to be taken as restrained by a part of the Attribute: I say by a part, for it would be ridiculous to think that it should be restrained by the whole Attribute, as if one should pretend that this Proposition is true, *All Men are just*, because he would have it understood in this Sense. that all just Men are just, which would be impertinent. But when the Attribute is complex, and has two Parts, as in this Proposition *all Men are just thro' the Grace of Jesus Christ*; it may then with Reason be said that the Term *just* is understood in the Subject, tho' it be not expressed; because it is evident all that is meant is this, that all Men who are just are just only thro' the Grace of Jesus Christ. And thus this Proposition is true in its full Strictness, tho' to consider only what is expressed in the subject it may seem false, there being so many Men who are wicked and Sinners, and who consequently have not been justified by the Grace of Jesus Christ. There are a great many Propositions in Scripture which are to be taken in this Sense, and among others this Expression of St. Paul; *As all Men died by Adam, so all Men live by Christ*. For it is certain that infinite Numbers of Pagans, who died in their Infidelity, do not live by Christ, nor shall have any

any S
speaking
Apostle
live, li

There
rally u
The Fre
the Fle
median
diers, a
others.

V.
that th
these V
For, or
cially i

For
Physicia

The
there an
sition,
are who
are fals
Vices c
that we
some in
are wh
rest.

The
Substan
sonable
Proposi
plex in

any Share in the Life of Glory which St Paul is speaking in this Passage. So that the Meaning of the Apostle is, *That as all that dye, dye by Adam; so all that live, live by Christ.*

There are also many Propositions which are morally universal only in this manner, as when we say, *The French are good Soldiers; the Dutch are good Sailors; the Flemesh are good Painters; the Italians are good Comedians;* we mean, that the *French* who are Soldiers, are generally good Soldiers, and so of the others.

V. OBSERVATION. We are not to imagine that there is no other Mark of Particularity besides these Words, *quidam, aliquis, some,* and the like. For, on the contrary, these are very rarely used, especially in our (the *French*) Language.

For very frequently we put *there are*; as, *there are Physicians who maintain*; and this in two Manners.

The First is, only by putting immediately after *there are* an Adjective for the Attribute of the Proposition, and a Substantive for the Subject; as, *there are whole som Distempers; there are fatal Pleasures; there are false Friends; there is a Generous Humility, there are Vices concealed under the Cloak of Virtue.* Thus it is that we express in our Language what is expressed by *some* in the Style of the Schools; *Some Distempers are whole some; some Humility is Generous.* So of the rest.

The second Manner is to join the Adjective to the Substantive by a *which*: *there are Fears which are reasonable.* But this *which* does not hinder but that these Propositions may be simple in the Sense, tho' complex in the Expression; for it is all one as if we simply

Simply said, *some Fears are reasonable*. The following Forms of Speech are yet more common than the former; *There are Men that love only themselves: There are Christians that are unworthy of the Appellation*.

The like Turn is sometimes used in Latin. *Horace*,

*Sunt quibus in Satyra videor nimis acer & ultra,
Legem tendere opus.*

Which is all one as if he had said,

Quidam existimant me nimis acrem esse in Satyra.

There are some that think me too sharp in Satyr.

So also in Scripture; *Est qui nequiter se humiliat*: There are some that humble themselves wickedly.

Omnis, all, with a Negation, does also make a particular Proposition, with this difference, that in Latin the Negation precedes *omnis*, and in our Tongue follows *all*: *Non omnis qui dicit mihi, Domine, Domine, intrabit in regnum calorum*: All that say to me Lord, Lord, shall not enter into the Kingdom of Heaven. *Non omne peccatum est crimen*: Every Sin is not a Crime.

Yet in the Hebrew, *non omnis* is often put for *nullus*, as in the Psalms; *Non justificabitur in conspectu tuo omnis vivens*: In thy Sight shall no Man living be justified. This happens, because then the Negation falls only upon the Verb, and not upon *omnis*.

VI. OBSERVATION. The preceding are Observations of very good use when there is a Term of Universality; as *all, none, &c.* But when there is none nor even one of Particularity, as when I say, *Man is reasonable, Man is just*; it is a famous Question among the Philosophers, whether these Propositions,

which th
verfal or
meant w
Discour
Senses?
Proposit
picked o
course o
Confi
it ought
fary, and
I find
and yet i
firm, tha
mon Te
accounte
thus in
as a part
one. A
Men ma
false, wh
they are
are satisf
For w
are whit
Gentlem
Quakers
those P
counted
continge
Now it
as those
Ethiopi
nians th
Quakers
whatsoe
are taken
gent wo

which

which they call *indefinite*, ought to be reckon'd Universal or Particular, which is to be understood as meant when they are not follow'd by any Sequel of Discourse that may determine them to either of those Senses? For it is indisputable that the Sense of a Proposition, when it is any ways ambiguous, is to be picked out of what goes along with it in the Discourse of him that uses it.

Considering it then in itself, most Philosophers say it ought to be accounted universal in a Matter necessary, and particular in a Matter contingent.

I find this Maxim approved by very learned Men, and yet it is very false; and on the contrary we affirm, that when any Quality is attributed to a common Term, the indefinite Propositions ought to be accounted universal in any Matter whatsoever. And thus in a Matter contingent it is not to be consider'd as a particular Proposition, but as a false universal one. And this is the natural Judgment which all Men make of these Propositions, rejecting them as false, when they are not generally true, at least when they are not of a moral Generality with which Men are satisfied in ordinary Discourse.

For who could endure to hear it said, *That Bears are white; that Men are black; that the Parisians are Gentlemen, that the Polonians are Socinians; the English Quakers?* And yet, according to the Distinction of those Philosophers, these Propositions are to be accounted very true, since being indefinite in a Matter contingent, they ought to be taken for particular. Now it is very true that there are some Bears white, as those of *Nova Zembla*; some Men black, as the *Ethiopians*; some *Parisians* Gentlemen; some *Polonians* that are Socinians, some *Englishmen* that are Quakers. It is therefore evident that in any Matter whatsoever the indefinite Propositions of this kind are taken for universal; but that in a Matter contingent we are satisfied with a moral Universality. Thus.

Thus it is very proper to say, *The French are valiant; the Italians suspicious; the Germans big; the Orientals voluptuous*; tho' this be not true of every particular Man; because we are satisfied if it be true for the most part.

There is then another Distinction upon this Subject much more reasonable, which is that these indefinite Propositions are universal in Matter of Doctrine, when we say, *The Angels have no Body*; and are particular only in Matters of Fact and History, as where it is said in the Gospel, *Milites plectentes coronam de spinis, imposuerunt capiti ejus*: it is plain this is to be understood only of some Soldiers, and not of all Soldiers. The Reason whereof is, that in Matter of singular Actions, especially when they are determin'd to a certain Time, they usually agree in a common Term only upon Account of some Particulars, whose distinct Idea is in the Mind of those who make such Propositions: So that in the strict Sense these Propositions are rather singular than particular, as may be judged by what has been said of Terms complex in the Sense, first Part, chap. 7. and in 2d Part, chap. 6.

VII. OBSERVATION. The Names of *Body* of *Community*, of *People*, being taken collectively, as they usually are, for the whole Body, the whole Community, the whole People, do not render the Proposition wherein they stand properly universal, and much less particular, but singular. As when I say, *The Romans overcame the Carthaginians; the Venetians are at War with the Turks; the Judges of such a Place condemned a Criminal*; these Propositions are not universal: otherwise we might conclude of each *Roman* that he had overcome the *Carthaginians*, which would be false. Neither are they particular; for that Proposition means more than if I said, *some Romans overcame the Carthaginians*; but they are singular

ular, because we consider every People as a moral Person whose Duration is of several Ages, which subsists as long as it composes a State, and which acts in all that time by those of whom it consists, as a Man acts by his Members. From whence it is that we say, the *Romans* who were overcome by the *Gauls* that took *Rome*, overcame the *Gauls* in *Cesar's* Time; attributing thus to the same Term of *Romans*, the having been overcome at one time, and the being Conquerors at another, tho' in one of those Times there was not one Man of those that were in the other. And this shews the Foundation of the Vanity which every Particular takes in the noble Actions of his Nation, tho' he had not the least hand in them; and which is as much that of an Ear, which being deaf, shou'd claim Glory upon Account of the Vivacity of the Eye, or Skill of the Hand.

~~~~~

#### C H A P. XIV.

*Of those Propositions wherein the Name of the Thing is given to the Sign.*

WE said in the first Part, that of Ideas some had Things, and others Signs for their Objects. Now when these Ideas of Signs affixed to Words come to form Propositions, there happens a Thing which it is necessary to examine in this Place, and which properly belongs to Logic; it is that sometimes the Things signified are affirmed of them. And the Question is when it is lawful so to do, and that chiefly in reference to instituted Signs: For as to the natural Signs, there can be no Dispute, because the visible Relation there is between that sort of Signs and the Things, shews plainly that when we affirm of the Sign the Thing signified, we do not mean

mean that this Sign is really this Thing, but that it is so in Signification and in Figure. And Thus we might say, without any formal Introduction, of a Picture of *Cæsar*, that it is *Cæsar*; and of a Map of *Italy*, that it is *Italy*.

It is therefore necessary to examine this Rule which allows of affirming of the Signs the Things signified, only in reference to the instituted Signs which do not by any manifest Relation give Notice of the Sense in which such Propositions are understood by the Propounder; and this has given room to abundance of Disputes.

For some are of Opinion that this may be done indifferently, and that in order to prove a Proposition reasonable, if taken in a Sense of Figure and of Sign, it is enough to say that it is common to give to the Signs the Name of the Things signified. But this is by no means true; for there are vast Numbers of Propositions which would be extravagant if the Name of the Things signified were given to the Signs; which is never done, because they are extravagant. Thus a Man that should lay it down for a Rule to his own Mind that certain Signs do signify others, would be ridiculous if without any previous Information he should take the Liberty to give to those fictitious Signs the Name of these Things, and should say, for Instance, that a Stone is a Horse, and an Ass a King of *Persia*, because he had established those Signs in his own Mind. Thus the first Rule to be laid down upon this Subject is, that we must not give indifferently to the Signs the Names of the Things.

The Second, which is a Consequence of the first is that the bare evident Incompatibility of the Terms is not a sufficient Reason to conclude that a Proposition, because it cannot be taken literally, is therefore to be explained in a Figurative Sense. If it were so, none of those Propositions could ever be

extravagant  
their lives  
Recourse  
is by no  
dure to h  
planation  
that the  
that a Tr  
it would  
gain the  
produce f  
fore to w  
pared in a  
ance such  
these Prep  
ainly in

1. Rem  
the Senses  
which are  
any mean  
Name of  
any Thin  
bund; a  
sible at  
the figura  
2. It d  
the Thing  
now tha  
the Sign  
known,  
Victory, a  
dge does  
can that  
the King  
signior,  
old that  
live-Tre



extravagant; and the more impossible they were in their literal Sense, the more naturally we should have Recourse to the Figurative Interpretation: But this is by no means to be granted: For who could endure to hear a Man affirm, without any privious Explanation, and in Virtue only of a private Institution, that the Sea is the Sky, that the Earth is the Moon, that a Tree is a King? Who does not perceive that it would be the very shortest way one could take to gain the Reputation of being Mad, to pretend to introduce so strange a Language? The Person therefore to whom we address ourselves ought to be prepared in a certain manner, e'er we can reasonably advance such Propositions; and we are to observe upon these Preparations that there are some which are certainly insufficient, and others certainly sufficient.

1. Remote Relations which are not apparent to the Senses, nor to the first View of the Mind, and which are discovered only by Meditation, do not by any means suffice to give immediately to the Signs the Name of the Things signified. For there are hardly any Things among which such Relations may not be found; and it is evident that Relations which are not visible at first Sight, will not be sufficient to lead to the figurative Sense.

2. It does not suffice to give to a Sign the Name of the Thing signified at the first Institution: that we know that those we speak to, do already consider it as the Sign of another thing quite different. It is known, for Example, that the Lawrel is the Sign of Victory, and the Olive of Peace. But this Knowledge does not any wise prepare the Mind to hear a Man that shall please to make the Lawrel the Sign of the King of *China*, and the Olive that of the Grand Signior, say abruptly in walking in a Garden, Behold that Lawrel, it is the King of *China*; and that Olive-Tree, 'tis the Great Turk.

3. Any

3. Any Preparation that only gives the Mind to expect something Great, without preparing it to look upon something in particular as a Sign, does not at all suffice to give Authority for attributing to that Sign the Name of the Thing signified in the first Insinuation. The Reason is evident, because there is no direct and natural Consequence from the Idea of Greatness to the Idea of a Sign; so that the one does not lead to the other.

But it is certainly Preparation enough to give to the Signs the Name of the Things, when we perceive in the Mind of those to whom we speak, that considering certain Things as Signs, they are only at a loss to know what they signify.

Thus *Joseph* very reasonably made Answer to *Pharaoh*, that the seven fat Kine and the seven full Sheaves which he saw in a Dream, were seven Years of Plenty and the seven lean Kine and the seven thin Sheaves seven Years of Dearth, because he perceived that *Pharaoh* was at a loss only in that Point, and that his Question did naturally mean no more than this: What are these fat and lean Kine, these full and thin Sheaves in Signification?

Thus *Daniel* made Answer very properly to *Nebuchadnezzar*, that he was the Golden Head, because he had proposed to him the Dream he had had of a Statue with a Golden Head, and asked him its Signification.

Thus when a Parable has been propounded, and comes to be explained, those to whom it is addressed considering already every Part of it as so many Signs, it is very just in the Explanation to give to the Signs the Name of the Things signified.

Thus God having shewn to the Prophet *Ezekiel* in a Dream, in *spiritu*, a Field full of dead Bodies: and all the Prophets making a Distinction between Visions and Realities, and being accustomed to take them for

Signs, G  
said, Th  
to say, th  
Such  
we can m  
agreed th  
the Thing  
to be fou  
Maxim;  
Name of  
suppose t  
and that v  
want to l  
nify.

But as  
Exception  
make one  
when the  
mer absol  
Sign; so  
pronounc  
the Subje  
note it.

exterior S  
Some ext  
conceive  
So that w  
son is the  
it surpriz

Sign to th  
he that h  
and the C  
the Unio  
pose that  
son is the  
that the C  
sign; the  
form tha

Sign

Signs, God spoke to him very intelligibly when he said, *That those Bones were the House of Israel*, that is to say, they signified the House of *Israel*.

Such as those are very sure Preparations ; and as we can meet with no other Examples wherein it is agreed that the Name of the Sign has been given to the Thing, besides those wherein such Preparations are to be found, we may naturally draw the following Maxim ; That we are never to give to the Signs the Name of the Things but when we have Reason to suppose that they are already looked upon as Signs, and that we perceive in the Mind of others that they want to know not what they are, but what they signify.

But as the Generality of moral Rules will admit of Exceptions, it is a Doubt whether we ought not to make one here in favour of one single Case. It is when the Thing signified is such that it is in a manner absolutely requisite it should be denoted by a Sign ; so that the Moment the Name of that Thing is pronounced, the Mind immediately conceives, that the Subject to which it is joined is intended to denote it. Thus as the Alliances are usually marked by exterior Signs, if the Word *Alliance* be affirmed of some exterior Thing, the Mind might be ready to conceive that it is affirmed of it as of its Sign : So that when we read in Scripture, that the *Circumcision is the Alliance*, there would perhaps be nothing in it surprizing ; for the Alliance gives the Idea of the Sign to the Thing where it is joined. And thus, as he that hears a Proposition conceives the Attribute and the Qualities of the Attribute before he makes the Union between it and the Subject, we may suppose that he that hears this Proposition, the *Circumcision is the Alliance*, is sufficiently prepared to conceive that the Circumcision is an Alliance only by way of sign ; the Word *Alliance* having given him room to form that Idea, not before it was pronounced, but before

before it was united in his Mind with his Word *Circumcision*

I said we *might believe* that the Things which absolutely require to be denoted by Signs, might be an Exception from the establish'd Rule, which demands a previous Preparation that may make the Sign be looked upon as a Sign, before we can affirm of it the Thing signified, because *we might also believe* the contrary. For, 1. this Proposition, the *Circumcision is the Alliance*, is not expressly in Scripture, which only says *This is the Alliance which ye shall observe between you your Posterity and me: Every Male among you shall be circumcised*. Now here it is not said, that the Circumcision is the Alliance, but the Circumcision is commanded as a Condition of the Alliance. It is true God commanded this Condition, to the Intent that Circumcision might be the Sign of the Alliance, as is expressed in the following Verse, *Ut sit in signum fœderis*; but in order to its being the Sign, it was necessary to command the Observation of it, and to make it the Condition of the Alliance; and this is what is contained in the foregoing Verse. 2. The Words of St. Luke, *This Cup is the new Alliance in my Blood*, which are also alledged, carry yet less Evidence to confirm that Exception: For according to a literal Translation, St. Luke says, *This Cup is in the New Testament in my Blood*. Now as the Word Testament does not only signify the last Will of the Testator, but even more properly the Instrument which contains it, there is no Figure in calling the Cup of the Blood of Christ a *Testament*, since it is really the Token, the Pledge, and the Sign of the last Will of Christ, and the Instrument of the new Alliance.

Let it be as it will, this Exception being doubtful on the one hand, and on the other not very frequent, and there being very few Things which of themselves require to be denoted by Signs, they do not hinder the Use and Application of the Rule in respect of a

other Things. Men have Institution Principle, they never comprized. It is by important these Words. Or rather has already having been of Reality Apostles in and not led, Christ Name of the Custom Mistake. Done as for I have of those Things, between the thing Picture of those who Name, or signified. whom we Sign, and sign of, of Express we express for we hearers in this manner to come or in signifi

other Things which have not that Quality, and which Men have not been accustomed to denote by Signs of Institution. For we are to remember this equitable Principle, that most Rules having their Exceptions, they nevertheless retain their Force in Things not comprized in those Exceptions.

It is by these Principles that we are to decide this important Question, Whether we are to understand these Words, *This is my Body*, in a figurative Sense? Or rather it is by these Principles that all the World has already decided it, all the Nations of the Earth having been naturally induced to take them in a Sense of Reality, and to exclude that of a Figure. For the Apostles not looking upon the Bread to be a Sign, and not being at all at a loss to know what it signified, Christ could not have given to the Signs the Name of the Things without speaking contrary to the Custom of all Mankind, and leading them into as great a Mistake. They Might indeed look upon what was done as something great; but that is not enough.

I have nothing further to observe upon the Subject of those Signs to which Men give the Name of the Things, but that we are very carefully to distinguish between the Expressions wherein we use the Name of the thing to denote the Sign, as when we call a Picture of *Alexander* by the Name of *Alexander*; and those wherein the Sign being denoted by its proper Name, or by a Pronoun, we affirm of it the Thing signified. For this Rule, that the Mind of those to whom we speak ought already to know the Sign to be a Sign, and be at a loss only to know what it is the sign of, is by no means meant of the first kind of Expressions, but only of the second, wherein we expressly affirm of the sign of the Thing signified. For we use those Expressions only to inform our hearers what the Sign signifies; and we never do it in this manner but when they are sufficiently prepared to conceive that the Sign is the Thing signified only in signification and in Figure.

CHAP.



## C H A P. XV.

*Of two Sorts of Propositions which are of great use in the Sciences, Division and Definition. And first of Division.*

**I**T is necessary to say something in this Place of two Sorts of Propositions which are of great use in the Sciences; Division and Definition.

Division is the Partition of a Whole into what it contains.

But as there are two Sorts of the *Whole*, there are also two Sorts of Divisions. There is one *Whole* consisting of several Parts really distinct, called in Latin *totum*, and whose Parts are called *Integral Parts*. The Division of this *Whole* is properly called *Partition*: As when a House is divided into its Apartments, a City into its Wards, a Kingdom or a State into its Provinces, Man into Body and Soul, the Body into its Members. The only Rule for this Division, is to make an accurate numbering of the Parts, without omitting any thing.

The other *Whole* is called in Latin *omne*, and its Parts *Subjective* or *Inferior Parts*: because this *Whole* is a common Term, and its Parts are the Subjects comprehended in its Extent, as the Word *Animal* is the *Whole* of this Nature, whose Inferiors, *Man* and *Beast*, which are comprehended in its Extent, are *Subjective Parts*. This Division retains properly the Name of Division, and we may observe four Sorts of it.

The first is when the Genus is divided by its Species: *Every Substance is Body or Spirit: Every Animal is Man or Beast.*

The 2d is when the Genus is divided by its Differences; *Every Animal is Rational or Irrational: Every*

*Number is even or uneven : Every Proposition is true or false : Every Line is strait or curve.*

The 3d is when a common Subject is divided by the opposite Accidents of which it is capable, either according to its various Inferiors, or its various Times ; *Every Star has Light of its own, or only by Reflexion : Every Body is in Motion or in Rest : All the French are Noble or Base : Every Man is sick or well : All Nations, in order to express their Minds, make use either of Speech only, or of Writing together with Speech.*

The 4th of an Accident into its various Subjects, the Division of Goods into those of the Mind and those of the Body.

The Rules of Division are, 1. That it be entire, that is to say, that the Members of the Division include the whole Extent of the Term divided ; as *even and uneven* include the whole Extent of the Term *Number*, there being none that is not either even or uneven. There is hardly any thing occasions so many false Reasonings as the want of giving the Attention to this Rule ; and what leads into the mistake is, that often there are Terms which seem so opposite as to admit of no Medium, when really they admit of one. Thus between Ignorant and Learned, there is a certain Mediocrity of Knowledge that sets a Man above the Rank of Ignorant, tho' it does not place him in that of Learned. Between Vicious and Virtuous, there is also a certain State of which we may say what *Tacitus* says of *Galba*, *Magis in vitia quam cum virtutibus*. For there are People not being guilty of gross Vices, are not called vicious, and who not doing any Good, cannot be called virtuous, tho' in the Eyes of God it is a great Vice not to be virtuous. Between sick and well, there is the Condition of a Man a little out of Order or upon Recovery : Between Day and Night, there is twilight : Between the opposite Vices, there is the Medium

Medium of Virtue, as Piety between impiety and Superstition. And sometimes this Medium is double, as between Avarice and Prodigality, there is Liberality and a laudable Frugality: Between Cowardice which Fears every thing, and Temerity which fears nothing, there is a Valour which is not shocked in Danger, and a reasonable Prudence which teaches us to avoid those wherein it is not proper to engage our selves.

The 2d Rule, which is a Consequence of the first is, that the Members of the Division be opposite, as *even, uneven, rational, irrational*. But it is necessary to observe what we have already said in the first Part, that it is not necessary for all the Differences that form those opposite Members to be positive; but that it is sufficient if one be so, and the other be the Genus alone with the Negation of the other Difference. Nay, it is by this that we make the Members more certainly opposite. Thus the difference of a Brute from a Man is only the Privation of Reason, which is nothing positive: Unevenness of a Number is only the Negation of its Divisibility into two equal Parts. The first Number has nothing in it that is not in the compound Number, *Unity* being the Measure of both; that which is called First differing from the Compound only in that it has not any Measure besides *Unity*.

Yet we must own it better to express the opposite Differences by positive Terms, when it is possible so to do, because it better shews the Nature of the Members of the Division. For which Reason the Division of Substance into the Thinking and the Extended, is much better than the common Division of it into the Material and the Immaterial, or into the Corporeal and the Incorporeal, because the Words *Immaterial* and *Incorporeal* give us but a very confused and imperfect Idea of what is much better expressed by the Words Thinking Substance.

The  
is, that  
the other  
it may f  
For Lin  
Superfici  
Solid.  
divided  
cannot  
Solid.  
into Ev  
square M  
included

Neith  
and prob  
ther true  
true and  
ther into

Ramus  
great Pa  
but two  
done con  
and Faci  
in the Se  
into thre  
natural,  
Subdivisi  
bers. Fo  
is the chi  
by the g  
much mo  
made mo  
stance, is  
natural re  
er Solid,  
linea, ve  
Solidum?

The 3d Rule, which is a Consequence of the 2d, is, that one of the Members be not so included in the other, that the other may be affirmed of it; tho' it may sometimes be included in it in another manner. For Line is included in Superficies as the Term of Superficies, and Superficies in Solid as the Term of Solid. But this does not hinder Extent from being divided into Line, Superficies and Solid; because we cannot say that Line is Superficies, nor Superficies Solid. On the contrary, we cannot divide Number into Even, Uneven, and Square; because every square Number being either even or uneven, it is included in the two first Members.

Neither should we divide Opinions into true, false, and probable, because every probable Opinion is either true or false. But we may first divide them into true and false, and then divide the one or the other into certain and into probable.

*Ramus* and his Followers have put themselves to great Pains to shew that all Divisions ought to have but two Members. Indeed, so long as this can be done conveniently, it is the best way; but Clearness and Facility being what ought to be first considered in the Sciences, we ought not to reject the Divisions into three Members, especially when they are more natural, and when there would be occasion for forced Subdivisions to reduce them always into two Members. For then, instead of easing the Mind, which is the chief Fruit of Division, we should burthen it by the great Number of Subdivisions, which it is much more difficult to retain, than if we had at first made more Members in what we divide. For Instance, is it not more short, more simple and more natural to say, *Every Extent is either Line, or Surface, or Solid*, than, like *Ramus*, to say, *Magnitudo est linea, vel lineatum. Lineatum est superficies, vel solidum?*

Lastly, we may observe, that it is an equal Fault not to make Division enough and to make too much; the one does not sufficiently enlighten the Mind, and the other disperses it too much. *Crassotus*, who is one of the best of *Aristotle's* Interpreters, has prejudiced his Book by too great a Number of Divisions. It throws us into the Confusion we endeavour to avoid, *Confusum est quidquid in pulverem sectum est.*



## CHAP. XVI.

*Of that Definition which is called Definition of Thing.*

WE have in the first Part treated very extensively of the Definitions of Name, and shewn that they are not to be confounded with the Definitions of Things, because the Definitions of Names are arbitrary; whereas the Definitions of Things do not depend upon us, but upon what is included in the true Idea of a Thing, and must not be taken for Principles, but considered as Propositions which ought often to be confirmed by Reasons, and which may be disputed. It is then only of this latter kind of Definition that we treat here.

There are two Sorts of it; the one more exact, which retains the Name of Definition; the other less exact, which is called Description.

The more exact is that which explains the Nature of a Thing by its essential Attributes, whereof those that are common are called *Genus*, and those that are proper *Difference*.

Thus  
the Min  
rended  
if possi  
Definitio  
Thing d

Somet  
as when  
Mind an  
thing tha  
thing con

The le  
tion, is  
by the  
determin  
distingui

In thi  
Animals  
the like  
tions of

There  
which an  
pose, &c  
consistin  
designed

There  
tion; th  
be clear.

I. A I  
say, it sh  
which R  
is the Me

cause it i  
less than  
so long i  
Motion:

Duration  
dition it

Thus



Thus Man is defined to be a Rational Creature ; the Mind, a Thinking Substance ; Body, an Extended Substance ; God, the perfect Being. And, if possible, what is set down for the Genus in the Definition, ought to be the nearest Genus to the Thing defined, and not the remote Genus only.

Sometimes too we define by the integral Parts, as when we say, Man is a Thing consisting of a Mind and of a Body. But even then there is something that supplies the Place of Genus, as the Words *thing consisting*, and the rest serves for the Difference.

The less exact Definition, which is called Description, is that which gives some Knowledge of a Thing by the Accidents which are proper to it, and which determine it enough to give such an Idea of it as may distinguish it from any thing else.

In this manner it is usual to describe Plants, Fruits, Animals, by their Figure, Size, Colour, and other thelike Accidents. Of this Nature are the Descriptions of the Poets and Orators.

There are also some Definitions or Descriptions which are made by the Causes, Matter, Form, Purpose, &c. as if we defined a Clock, an Iron Machine, consisting of divers Wheels, whose regular Motion is designed to shew the Hours.

There are three Things necessary to a good Definition ; that it be universal ; that it be proper ; that it be clear.

1. A Definition ought to be universal, that is to say, it should take in the whole Thing defined. For which Reason the common Definition of *Time*, that it is the *Measure of Motion*, may perhaps be naught : because it is very probable Time does measure Rest no less than Motion ; since we say that a Thing hath been so long in Rest, as well as that it hath been so long in Motion : So that Time seems to be no more than the Duration of the Creature, let it be in what Condition it will.

2. A Definition must be proper, that is to say, it ought to be true only of the Thing defined. For which Reason the common Definition of the Elements, a *simple corruptible Body*, seems not to be good. For the Cœlestial Bodies, by the Confession of these very Philosophers, being no less simple than the Elements, we have no Reason to believe but that there may be Alterations in the Heavens, like to those which happen upon Earth; since, without mentioning Comets, which now we are assured are not formed of the Exhalations of the Earth, as *Aristotle* imagined, we have discovered Spots in the Sun, which gather and disperse there in the same manner as our Clouds do here, tho' they are of much greater Bulk.

3. A Definition should be clear, that is to say, it should be able to give us a more clear and distinct Idea of the Thing designed, and so make us as far as possible comprehend its Nature, so that it may help us to account for its principal Proprieties. This is what ought to be chiefly consider'd in Definitions, tho' it is very much neglected in most of *Aristotle's*.

For whoever did conceive the Nature of Motion the better for this Definition: *Actus entis in potentia quatenus in potentia*, the Act of a Being in Power as it is in Power? Is not the Idea which Nature gives us of a hundred times clearer than this? And who is there that was ever taught by it to explain any of the Proprieties of Motion.

The four famous Definitions of these four first Qualities, dry, moist, hot, cold, are not at all better.

Dry, says he, is that which is easily retained in its own Bounds, and difficult in those of another Body; *Quod suo termino facile continetur, difficultur alieno*.

And moist on the contrary, that which is easily retained in the Bounds of another Body, and difficultly in its own; *Quod suo termino difficultur continetur, facile alieno*.

But for the hard dry and and the Bound quid. I say that this Definition Bounds calls Fire vain Sub inclosed, cause of Smoke clear it will take Body, put throw out

As to geneous congregat

And C disunites genea, & agrees with which belongs the true Coldther Cold very good like those were an A The same tas & quies and of Re ed only up dies were

But first, these two Definitions agree better with the hard Bodies and the liquid Bodies, than with the dry and the moist. For we say, that one Air is dry, and another moist, tho' it be always easily retained in the Bounds of another Body, because it is always liquid. And besides, we cannot see how *Aristotle* could say that Fire, that is Flame, was dry, according to this Definition, since Flame is easily retained in the Bounds of another Body; from whence also *Virgil* calls Fire liquid; & *liquidi simul ignis*. And it is a vain Subtilty to say with *Campanella*, that Fire being inclosed, *aut rumpit aut rumpitur*: For that is not because of its pretended Dryness, but because its own Smoke choaks it if it wants Air. For which Reason it will take up very well with the Bounds of another Body, provided it have some Opening by which to throw out what it incessantly exhales.

As to *Hot*, he defines it, that which collects homogeneous and disunites heterogeneous Things; *quod congregat homogenea, & dissergat heterogenea*.

And *Cold*, that which collects heterogeneous and disunites homogeneous Things; *quod congregat heterogenea, & dissergat homogenea*. This is what sometimes agrees with Hot and Cold, but not always, and which besides does not at all help us to understand the true Cause why we call one Body Hot, and another Cold. So that the Lord Chancellor *Bacon* had very good Reason to say, that these Definitions were like those one might make of a Man in saying he were an *Animal that makes Shoes and cultivates Vines*. The same Philosopher defines Nature; *Principium motus & quietis in eo quo est*; The Principal of Motion and of Rest in that wherein it is. Which is grounded only upon an Imagination of his, that Natural Bodies were herein different from Artificial Bodies, in

that the Natural had the Principle of their Motion within themselves, and that the Artificial had it only from without. Whereas it is certain and evident, that no Body can give Motion to itself, because Matter being of itself indifferent as to Motion or Rest, cannot be determined to one or to the other but by a foreign Cause; which as it cannot go on *ad infinitum*, it must of necessity have been God that impressed Motion upon Matter, and that preserves it there still.

The celebrated Definition of the Soul seems to be yet more defective; *Actus primus corporis naturalis organici potentia vitam habentis*: The first Act of the natural organical Body having Life in Power. We do not know what he intends to define: For if it be the Soul, as common to Man and Beasts, it is a Chimera which he has defined, there being nothing common between those two Things. 2 He has explained an obscure Term by four or five that are more obscure. And to mention only the Word *Life*, the Idea we have of Life is no less confused than that which we have of the Soul, those two Terms being equally ambiguous and equivocal.

These are some of the Rules of Division and Definition. But tho' there is nothing of more Importance in the Sciences than to divide and to define well, it is not necessary to say more of it here, because it depends more upon the Knowledge of the Matter treated of, than upon Logical Rules.

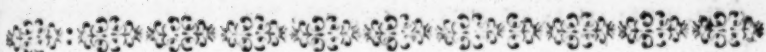
of the

Natural  
which  
treat  
Affir

[T

I Defe  
of P  
Foundat  
to hand  
had been  
from wh  
for the  
what we  
and thor

It is  
another  
for the S  
of another  
Mind con  
This U  
Words th  
a thing i



## C H A P. XVII.

*Of the Conversion of Propositions ; wherein the Nature of the Affirmation and Negation, upon which this Conversion depends, is more thorowly treated of. And first of the Nature of the Affirmation.*

*[The following Chapters are a little difficult to understand, and are necessary only in Speculation. Wherefore those that are unwilling to fatigue their Mind upon Things of little use in Practice, may pass them over.]*

I Deferred it till now to speak of the Conversion of Propositions, because thereupon depend the Foundations of all the Argumentation that we are to handle in the following Part ; and therefore it had been improper to put this Matter at a distance from what we have to say of Augmentation ; tho' for the better clearing it, we must look back to what we said before of Affirmation and Negation, and thorowly explain the Nature of both.

It is certain we cannot express a Proposition to another Man, without making use of two Ideas, one for the Subject, and the other for the Attribute, and of another Word to denote the Union which our Mind conceives to be between them.

This Union cannot be better expressed than by the Words themselves which we use to affirm, by saying a thing is another thing.



And from hence it appears, that the Nature of the Affirmation is to unite and indentify, if we may use the Expression, the Subject with the Attribute; since it is what is signified by the Word *is*.

And it also follows, that it is part of the Nature of the Affirmation to put the Attribute in all that is expressed in the Subject, according to the Extent it has in the Proposition; as when I say, that *every Man is an Animal*, I mean that every thing that is Man is also Animal; and thus I conceive Animal in every Man.

But if I only say, *Some Man is just*, I do not put *just* in all Men, but only in some Men.

But we are in like manner to consider here what we have already said, that in Ideas we must distinguish between Comprehension and Extension, and that Comprehension denotes the Attributes contained in an Idea, and Extension the Subjects which that Idea contains.

For from hence it follows, that an Idea is always affirmed according to its Comprehension; because if we take from it any of its essential Attributes, we entirely destroy and annihilate it, and it is no longer the same Idea. And consequently whenever it is affirmed, it is always affirmed according to every thing that it comprehends within itself. Thus when I say, that *a Right Angle is a Parallelogram*, I affirm of the Right Angle all that is comprehended in the Idea of the Parallelogram. For if there were any part of that Idea which did not agree with the Right Angle, it would follow that the whole Idea did not agree with it, but only a part thereof. And therefore the Word Parallelogram, which means the total Idea, ought to be denied and not affirmed of the Right Angle.

And it follows on the contrary, that the Idea of the Attribute is not taken in its whole Extension, unless its Extension be not greater than that of the Subject.

For if I do not be damned the Dan

Thus t  
tribute i  
determin  
firmative  
notes, re  
equal to  
rality, if  
true that  
of the Li  
not true t

I said,  
nerality i  
ing restrai  
general as  
Attribute  
will have  
that by it

From h  
Axioms.

The At  
Proposition  
Subject ha  
Subject is  
whole Ext  
is particu  
part of th  
have instan

For

For if I say, that *all Whoremasters shall be damned*, I do not say they alone shall be all the People that shall be damned, but that they shall be of the Number of the Damned.

Thus the Affirmation putting the Idea of the Attribute in the Subject, it is properly the Subject that determines the Extension of the Attribute in the affirmative Proposition, and the Identity which it denotes, regards the Attribute as confined to an Extent equal to that of the Subject, and not in all its Generality, if that be greater than the Subject. For it is true that Lions are all Animals, that is to say, each of the Lions includes the Idea of Animal; but it is not true that they are all the Animals.

I said, that the Attribute is not taken in all its Generality if that be greater than the Subject: For being restrained only by the Subject, if the Subject is as general as that Attribute, it is evident that then the Attribute will remain in all its Generality, since it will have as much as the Subject, and we suppose that by its Nature it cannot have more.

From hence we may collect these four indubitable Axioms.

## I. A X I O M.

*The Attribute is put into the Subject by the affirmative Proposition, according to the whole Extension that the Subject has in the Proposition.* That is to say, if the Subject is universal, the Attribute is conceived in the whole Extension of the Subject; and if the Subject is particular, the Attribute is conceived only in a part of the Extension of the Subject. Examples we have instanced above.

## 2. Axiom.

*The Attribute of an affirmative Proposition is affirmed in its whole Comprehension, that is to say, in all its Attributes. The Proof of this is set down above.*

## 3. Axiom.

*The Attribute of an affirmative Proposition is not affirmed in its whole Extension, if of itself it be greater than that of the Subject. This has been proved above.*

## 4. Axiom.

*The Extension of the Attribute is restrained by that of the Subject, so that it only signifies that part of its Extension which agrees with the Subject; as when we say, Men are Animals, the Word Animal does no longer signify all Animals, but only the Animals that are Men.*



## C H A P. XVIII.

*Of the Conversion of Affirmative Propositions.*

**W**E call Conversion of a Proposition, the Change that is made of the Subject into Attribute, and the Attribute into Subject; and yet the Proposition must not cease to be true, if it were so before, or rather, in such a manner that it must necessarily follow from the Conversion that is true, supposing that it was so.

Now, by what we have just said, it will easily be understood how this Conversion is to be made. For

as it is  
united  
to the  
to B,  
possible  
tified,  
less tha  
we can  
Terms i  
called C  
Thus  
Examp  
and the  
Man be  
larity a  
because  
Subject,  
Man; i  
with so  
Man, a  
Attribu  
nity to

We c  
tive Pr  
Subject  
is taken  
contrary  
when i  
still kee  
some M  
Thus w  
of Man  
to Man  
upon th  
by An  
this T  
should  
Determin

as it is impossible that one thing should be joined and united to another, and that other not be joined also to the first, and that it is plain that if A is joined to B, B is joined to A; it is evident that it is impossible two Things should be conceived to be identified, which is the most perfect of all Unions, unless that Union be reciprocal; that is to say, unless we can make a mutual Affirmation of the two united Terms in the Manner that they are united, which is called Conversion.

Thus, as in particular affirmative Propositions, for Example, when we say, *Some Man is just*, the Subject and the Attribute are both particular, the Subject *Man* being made particular by the Mark of Particularity added to it, and the Attribute *just* being so, because its Extent being restrained by that of the Subject, it signifies only the Justice which is in some Man; it is evident, that if some Man is identified with some just, some just is also identified with some Man, and that thus we need only barely change the Attribute into Subject, retaining the same Particularity to convert this kind of Propositions.

We cannot say the same of the Universal Affirmative Propositions, because in these Propositions the Subject is all that is universal, that is to say, all that is taken in its whole Extent, and the Attribute on the contrary is limited and restrained; and consequently when it is made the Subject by Conversion, it must still keep the same Restriction, and be determined by some Mark, for fear it should be taken generally. Thus when I say, that *Man is Animal*, I unite the Idea of Man with that of *Animal*, restrained and confined to Man only. And consequently when I would look upon this Union as in another View, and beginning by *Animal*, afterwards affirm Man, I must preserve to this Term the same Restriction; and for fear it should lead into a Mistake, add to it some Note of Determination.

So that because affirmative Propositions can be converted only in particular Affirmatives, we are not to conclude that they are converted less properly than the other; but as they consist of a general Subject and a restrained Attribute, it is manifest that when they are converted, by changing the Attribute into Subject they ought to have a restrained and confined, that is to say, a particular Subject.

From whence we ought to draw these two Rules.

### 1. R U L E.

*The Universal Affirmative Propositions may be converted by adding a Mark of Particularity to the Attribute when become a Subject.*

### 2. R U L E.

*The Particular Affirmative Propositions ought to be converted without any Addition or Alteration, that is to say, retaining to the Attribute, when become the Subject, the Mark of Particularity which was joined to the first Subject.*

But it is easy to perceive that those two Rules may be reduced to one single one that will include them both.

*The Attribute being restrained by the Subject in all Affirmative Propositions, if we would make it the Subject, we must preserve to it its Restriction, and consequently give it a Mark of Particularity, whether the first Subject was universal, or whether it was particular.*

Nevertheless it pretty often happens that Universal Affirmative Propositions may be converted into other universal ones. But this is only when the Attribute has not of itself more Exrant than the Subject, as when we affirm of the Species the Difference or the Proper

Proper, then the  
ken in t  
was take  
is Man

But th  
lar Circu  
sions, wh  
the sole

○○○○

Of t

THE  
be

is to con

But in  
not neces  
with it,  
other has  
it suffice  
is not ne  
is in Ma

The I  
the Subj  
hension o  
total and  
Attribute

IF I s  
I do not  
say that  
total and

It is  
Idea: F



Proper, or of the Thing defined, the Definition. For then the Attribute not being restrained, may be taken in the Conversion as generally as the Subject was taken; *Every Man is Rational: Every Rational is Man.*

But these Conversions being true only in particular Circumstances, they are accounted real Conversions, which ought to be certain and infallible by the sole Disposition of the Terms.



## CHAP. XIX.

### *Of the Nature of Negative Propositions.*

THE Nature of a Negative Proposition cannot be more clearly expressed than by saying that it is to conceive that a Thing is not another.

But in order to a Thing's not being another, it is not necessary that it should have nothing in common with it, and it suffices that it has not all that the other has; as in order to a Beast's not being a Man, it suffices that it has not all that a Man has, and it is not necessary that it should have nothing of what is in Man.

#### 5. Axiom.

*The Negative Proposition does not separate from the Subject all the Parts contained in the Comprehension of the Attribute: But it only separates the total and entire Idea compounded of all those united Attributes.*

If I say that Matter is not a Thinking Substance, I do not therefore say that it is not Substance, but I say that it is not a *Thinking* Substance, which is the total and entire Idea that I deny of a Matter.

It is quite different as to the Extension of the Idea: For the negative Proposition separates from the  
L
Subject

Subject the Idea of the Attribute in its whole Extension. And the Reason is Manifest. For to be the Subject of an Idea, and to be contained in its Extension, is nothing else but to include that Idea; and consequently when we say that an Idea does not include another, which is what is called to deny, we say that 'tis not one of the Subjects of that Idea.

Thus if I say that Man is not an insensible Being, I Mean that he is none of the insensible Beings, and consequently I separate them all from him. And from hence we may draw this other Axiom.

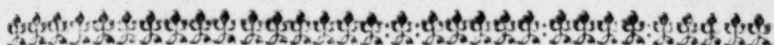
## 6. AXIOM.

*The Attribute of a negative Proposition is always taken generally; which also may be more distinctly expressed thus; All the Subjects of an Idea which is denied of another are also denied of that other Idea; that is to say, that an Idea is always denied in its whole Extent. If the Triangle is denied of square Figures, every thing that is a Triangle will be denied of the square. This Rule in the Schools is generally expressed in these Terms, which have the same Sense; If we deny the Genus, we deny the Species also. For the Species is a Subject of the Genus, Man is a Subject of Animal, because he is contained in its Extension.*

The negative Proposition not only separate the Attribute from the Subject in the whole Extension of the Attribute; but they also separate that Attribute from the Subject in the whole Extension which the Subject has in the Proposition, that is to say, they separate it universally if the Subject be universal, and particularly if it be particular. If I say that *no vicious Man is happy*, I separate all happy Persons from all vicious Persons: If I say that *some Doctor is not learned*, I separate learned from some Doctor; from whence this Axiom is to be drawn.

## 7. AXIOM.

*Every Attribute denied of a Subject, is denied of every thing that is contained in the Extent which that Subject has in the Proposition.*



## C H A P. XX.

*Of the Conversion of Negative Propositions.*

AS it is impossible to separate two Things totally, but that this Separation must at the same time be mutual and reciprocal, it is evident that if I say, *No Man is Stone*, I may also say, *No Stone is Man*. For if some Stone were Man, that Man would be Stone, and consequently it would not be true that no Man is Stone. And so,

## 3. RULE.

*Negative Universal Propositions may be converted by barely changing the Attribute into a Subject, and preserving to the Attribute, when become the Subject, the same Universality which the first Subject had.*

For the Attribute in negative Propositions is always taken universally, because it is denied in its whole Extent, as we shewed before.

But for that very Reason it is impossible to make a Conversion of particular negative Propositions, and to say, for Instance, that *some Physicians is not Man*, because we may say *some Man is not a Physician*. This proceeds, as I have already said, from the very Nature of the Negation which we just now explain'd, which is, that in negative Propositions the Attribute is always taken universally and in its whole Extent; so that when a particular Subject becomes the Attri-

bute by means of Conversion in a particular negative Proposition, it becomes universal, and changes its Nature, contrary to the Rules of true Conversion, which ought not to alter the Restriction or Extent of the Terms. Thus in this Proposition, *Some Man is not a Physician*, the Term *Man* is taken particularly. But in this false Conversion, *Some Physician is not Man*, the Word *Man* is taken universally.

Now because the Quality of Physician is separated from some Man in this Proposition, *Some Man is not a Physician*, and because the Idea of a Triangle is separated from that of some Figure in this other Proposition, *Some Figure is not a Triangle*, it does therefore by no means follow that there are Physicians that are not Men, or Triangles that are not Figures.



# THE THIRD PART OF LOGIC.



## OF ARGUMENTATION, OR REASONING.



**T**HIS Part that we have now to handle, which comprehends the Rules of Reasoning, is esteemed the most important part of Logic, and is what is generally discussed with most care: But there is cause to doubt whether it is so useful as is imagined.

Most

Most of Men's Errors, as we have already said elsewhere, much rather proceed from their arguing upon wrong Principles, than from their arguing upon their Principles. It seldom happens that they are deceived by Arguments that are false only because the Consequences are ill drawn from them: and those that are not capable of discovering their Sophistry by the meer light of Reason, wou'd hardly be capable of understanding, and much less of applying the Rules laid down for so doing. However, even tho' these Rules be considered only as speculative Truths, they will at least serve for an exercise to the Mind: And besides, it cannot be denied that they are of some use upon certain Occasions, and to certain Persons, who, being of a lively penetrating Genius, do sometimes suffer themselves to be carried away by false Consequences, only for want of Attention: which may in some measure be remedied, by the Reflection they will make upon these Rules. Be it as it will, you have heard what is generally alledged in their Favour, and even something more.



## C H A P. I.

*Of the nature of Reasoning, and of the different kinds that there may be of it.*

THE necessity of Reasoning proceeds only from the narrow bounds of the Mind of Man, who, being to judge of the truth or falseness of a Proposition, which then is called a *Question*, cannot always do it by the consideration of the two Ideas of which it consists, whereof that which is the Subject is also called the *lesser Term*, because the Subject is generally less extended than the Attribute, and that which is the

Attri-



Attribute is also called the *greater Term*, for the contrary Reason. When therefore the bare Consideration of those two Ideas is not sufficient for him to judge when he should affirm or deny the one of the other, he is obliged to have recourse to a third Idea, either incomplete or complex, (according to what has been said of complex Terms) and this third Idea is called the *Medium*.

Now it would be of no manner of use, in order to make this Comparison between two Ideas, by the interposition of this third Idea, to compare it only with one of the two Terms. If, for Instance, I would know whether the Soul be Spiritual, and that not penetrating thoroughly into it at first, I chuse the Idea of Thought in order to satisfy myself, it is plain it would be of no use to compare Thought with the Soul, unless I conceive in Thought some relation with the Attribute of Spiritual, by means whereof I may judge whether or no it agrees with the Soul. I may indeed say, for Example, the Soul thinks; but I cannot from thence conclude, therefore it is Spiritual, unless I conceive some relation between the Term *Thought* and that of *Spiritual*.

This middle Term therefore must be compared as well with the Subject or lesser Term, as with the Attribute or greater Term, whether it be only compared separately with each of those Terms, as in the Syllogisms which for that reason are called *simple*, or whether it be compared with both of them at once, as in the Arguments which are called *conjunctive*.

But in either of those manners this Comparison requires two Propositions.

We shall handle the conjunctive Arguments by themselves; but as for the simple, this is evident, because the Medium being once compared with the Attribute of the Conclusion (which cannot be done but by affirming or denying) makes the Proposition which

is called a Proposition is called a

And by Conclusion the Subject And the Proposition that proved, v

We are Propositions are they are Proposition, which from thence that Supposition m

Indeed because of conceive Propositions call'd Entail'd Mind, be expressed

and is concluded is understood

I said that an Argument without making still observed Idea to know agree with the Term

not agreed third to find and so on Attribute of

If, for miserable Passions a

is called *Major*, because the Attribute of the Conclusion is called the *greater Term*.

And being again compared with the Subject of the Conclusion, makes that which is called *Minor*, because the Subject of the Conclusion, is called *lesser Term*.

And then comes the Conclusion, which is the Proposition that was to be proved and which, before it was proved, was called a *Question*.

We are also to know, that the two first Propositions are likewise called *Premisses*, (*Premissæ*) because they are put at least into the Mind before the Conclusion, which ought to be a necessary Consequence from them, if the Syllogism be good; that is to say, that Supposing the Truth of the Premisses, the Conclusion must of necessity be true.

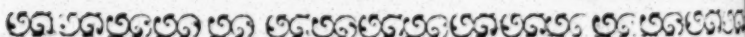
Indeed both Premisses are not always expressed because often one of them is enough to make the Mind conceive them both. And when thus but two Propositions are expressed in all, this sort of Reasoning is call'd *Enthymeme*, which is a perfect Syllogism in the Mind, because it supplies the Proposition that is not expressed; but which is imperfect in the Expression, and is conclusive only in virtue of the Proposition that is understood.

I said that there were at least three Propositions in an Argument; but there might be many more without making it at all defective, provided the Rules be still observed. For if after having consulted a third Idea to know whether an Attribute does or does not agree with a Subject, and compared it with one of the Terms, I do not yet know whether it does or does not agree with the second Term: I might chuse a third to satisfy myself; and if that will not do, a fifth; and so on till I come to a Term that will tie the Attribute of the Conclusion with the Subject.

If, for Example, I doubt whether *Covetous Men are miserable*, I may first consider that Misers are full of Passions and Desires: If that will not afford me reason

son to conclude, *therefore they are miserable*: I will examine what it is to be full of Desires, and I shall find in this Idea, that of wanting many things which are desired, and Misery in this privation thereof; which will give me occasion to form this Argument; *Covetous Men are full of Desires: Those that are full of Desires want many things; because it is impossible they should satisfy all their Desires: Those that want what they desire are miserable. Therefore Covetous Men are miserable*.

These sorts of Arguments consisting of several Propositions. whereof the Second depends upon the first, and so of the rest, are called *Sorites*, and are those that are most common in the Mathematicks. But because when they are long, the Mind has more trouble to trace them, and that the number of three Propositions is pretty well proportioned to the Capacity of our Mind, most care has been taken to examine the Rules of good and ill Syllogisms; that is to say, of Arguments consisting of three Propositions: Which is good to follow, because the Rules laid down for them may easily be applied to all the Arguments consisting of several Propositions, inasmuch as they may all be reduced into Syllogisms, if they are good.



## C H A P. II.

*Division of Syllogisms into Simple and Conjunctive, and of the Simple into Incomplex and Complex.*

**S**Yllogisms are either simple or conjunctive: The Simple are those where the Medium is joined but to one of the Terms of the Conclusion at once: The *Conjunctive* are those where it is joined to both: Thus this Argument is simple,

Every

Every go  
Every p  
Therefo  
Because  
King, wh  
with belov  
it. But thi  
If an e  
long durat  
Now an  
Therefo  
Since elect  
ation whi  
As these  
Rules, we  
The sim  
Medium i  
of the Co  
The on  
the Mediu  
Major, an  
The ot  
that is to  
part of the  
to be join  
itions, a  
ngle Ter  
he other  
The dir  
Louis X  
Therefo  
ouis XI  
We sha  
incomple  
at all th  
e of th  
his last l  
itions.

*Every good Prince is beloved by his Subjects :*

*Every pious King is a good Prince ;*

*Therefore every pious King is beloved by his Subjects.*

Because the Medium is joined separately with *pious King*, which is the Subject of the Conclusion ; and with *beloved by his Subjects* which is the Attribute of it. But this other is conjunctive for a contrary Reason.

*If an elective State is subject to divisions, it is not of long duration :*

*Now an elective State is subject to divisions ;*

*Therefore an elective State is not of long duration.*

Since *elective State* which is the Subject, and *of long duration* which is the Attribute, have a place in the Major.

As these two sorts of Syllogisms, have their separate Rules, we sh all treat of them separately.

The simple Syllogisms, which are those where the Medium is joined separately with each of the Terms of the Conclusion, are again of two sorts.

The one where each Term is joined entire with the Medium, to wit, with the Attribute entire in the Major, and with the Subject entire in the Minor.

The others ; where the Conclusion being complex that is to say, consisting of complex Terms only a part of the Subject, or a part of the Attribute, is taken to be joined with the Medium in one of the Propositions, and all the rest which is no more than one single Term, is taken to be joined with the Medium in the other Proposition. As in this Argument :

*The divine Law commands us to honour Kings :*

*Louis XIV. is a King ;*

*Therefore the divine Law commands us to honour Louis XIV.*

We shall call the first sort of Arguments clear and simple, and the other implicate or complex ; not that all those wherein there are complex Propositions are of this last kind, but because there are none of this last kind, wherein there are not complex Propositions.

Now

Now tho' the Rules generally given for simple Syllogisms may hold good in all complex Syllogisms by inverting them, nevertheless because the Strength of the Conclusion does not depend upon that Inversion, we shall here apply the Rules of simple Syllogisms only to the incomplex, and treat of complex Syllogisms by themselves.



### CH A P. III.

#### *General Rules for incomplex simple Syllogisms,*

[*This Chapter, and all the following to the Twelfth, are some of those mentioned in the Discourse, to contain abstracted Things necessary in the speculation of Logic, but of very little use.*]

**W**E have already seen by the preceding Chapters, that a simple Syllogism ought to have but three Terms, namely, the two Terms of the Conclusion, and one single Medium, each whereof being twice repeated make three Propositions: The Major, in which stands the Medium and the Attribute of the Conclusion, called the greater Term; the Minor, in which also stands the Medium and the Subject of the Conclusion called the lesser Term; and the Conclusion, whereof the lesser Term is the Subject, and the greater the Attribute.

But because all sorts of Conclusions cannot be drawn from all sorts of Premisses, there are general Rules which shew that a Conclusion cannot be rightly drawn in a Syllogism, where they are not observed. And these Rules are built upon the Axioms laid down in the second Part, touching the nature of affirmative,

negative,  
as are the  
been prov

1. Par  
al ones  
the parti  
nor E. in

2. The  
or particu  
ficular.

3. The  
ver havin  
considered  
by accide

4. The  
ways take  
It is pri  
tion of t  
cannot vi  
ings.

The Medi  
ought

For bei  
the Concl  
be take  
because p  
shall be u  
Terms. I  
e taken

and conse  
fast not  
ment v  
ave alrea  
the Premi  
Man is hol

nega-



negative, universal and particular Propositions ; such as are these, which we shall only propose, they having been proved elsewhere.

1. Particular Propositions are included in the general ones of the same nature, and not the general in the particular ; I. in A. and O. in E. and A. in I. nor E. in O.

2. The Subject of a Proposition taken universally or particularly, is what renders it universal or particular.

3. The Attribute of an affirmative Proposition, never having more extent than the Subject, is always considered as taken particularly ; because it is only by accident that it is sometimes taken generally.

4. The Attribute of a negative Proposition is always taken generally.

It is principally these Axioms that are the Foundation of the general Rules of Syllogisms, which we cannot violate without falling into false Reasonings.

R U L E. I.

*The Medium cannot be taken twice particularly, but it ought at least once to be taken universally.*

For being to unite or disunite the two Terms of the Conclusion, it is evident that it cannot be done if it be taken for two different parts of one same whole, because perhaps it will not be the same part that shall be united with or disunited from those two Terms. Now being twice taken particularly, it may be taken for two different parts of the same whole ; and consequently nothing can be concluded from it, at least not necessarily ; which is enough to make an Argument vicious, since no Syllogism is good, as we have already said, unless its Conclusion cannot be false, the Premisses being true : So in this Argument ; *Some Man is holy ; some Man is a Thief : Therefore some Thief is*

*is holy.* The word *Man* being taken for different parts of Mankind, cannot unite *Thief* with *Holy*, because it is not the same *Man* that is *Holy* and a *Thief*.

We cannot say the same of the Subject and Attribute of the Conclusion. For tho' they be twice taken particularly, they may nevertheless be united together, by uniting one of those Terms to the Medium in the whole extent of the Medium. For from thence it very well follows, that if this Medium is united in some one of its parts with some part of the other Term, that first Term which we said is joined to the whole Medium, will be found to be also joined with the Term to which some part of the Medium is joined. If there be some *Frenchmen* in every House in *Paris*, and if there are some *Germans* in some House in *Paris*; there are Houses where a *Frenchman* and a *German* are together.

*If some rich Men are Fools;  
And if all rich Men are honour'd:  
Some Fools are honour'd.*

For those rich Men that are Fools are also honour'd, since all the rich are honour'd; and consequently in those rich Men that are Fools, and that are honoured, the Qualities Fool and Honour'd are joined together.

## R U L E 2.

*The Terms of the Conclusion cannot be taken more universally in the Conclusion, than in the Premisses:*

Wherefore when the one or the other is taken universally in the Conclusion, the Argument will be false, if it is taken particularly in the two first Propositions.

The Reason is, that we cannot conclude any thing from the particular to the General; (according to the first Axiom) for because some Man is black, we cannot conclude that every Man is black.

## Corollary 1.

There ought always to be in the Premisses one universal Term more than in the Conclusion. For every Term that is general in the Conclusion ought to be

so too  
ought

Whe  
must of  
For it i  
(by the  
to be ra

The  
is negat  
the Sub  
tion are  
third A  
only par

The la  
the Pre  
ticular i  
Premisse  
the Con  
the lesse  
when it  
to the M  
it canno  
but that  
the Attr  
taken pa  
that the  
nited fro  
And c  
Term is  
dium wi  
the Med  
Now i  
fer Term  
with this  
joined to

so too in the Premises. And further, the Medium ought to be taken generally once at least.

*Corollary 2.*

When the Conclusion is negative, the greater Term must of necessity be taken generally in the Major. For it is taken generally in the negative Conclusion, (by the fourth Axiom) and consequently it ought also to be taken generally in the Major (by the second Rule)

*Corollary 3.*

The Major of an Argument, whereof the Conclusion is negative, can never be a particular Affirmative. For the Subject and Attribute of an Affirmative Proposition are both taken particularly (by the second and third Axiom) and so the greater Term wou'd be taken only particularly contrary to the second Corollary.

*Corollary 4.*

The lesser Term is always in the Conclusion as it is in the Premises, that is to say. that as it can be only particular in the Conclusion when it is particular in the Premises, it may on the contrary be always general in the Conclusion, when it is so in the Premises. For the lesser Term could not be general in the Minor when it is its Subject, without being united generally to the Medium, or disunited from the Medium, and it cannot be its Attribute and be taken generally in it, but that the Proposition must be negative; because the Attribute of an affirmative Proposition is always taken particularly. Now negative Propositions denote that the Attribute taken in it's whole extent is disunited from the Subject,

And consequently a Proposition where the lesser Term is general, denotes either a union of the Medium with that whole lesser Term, or a disunion of the Medium with that whole lesser Term.

Now if by this union of the Medium with the lesser Term, we conclude that another Idea is joined with this lesser Term, we ought to conclude that it is joined to the whole lesser Term, and not to a part of

it only. For the Medium being joined to the whole lesser Term, can prove nothing by that union of a Part, but it must prove the same of the others also, since it is joined to all.

In like manner if the disunion of the Medium from the lesser Term, proves something of some part of the lesser Term, it proves the same of all the Parts, since it is equally disunited from all the Parts.

*Corollary 5.*

When the Minor is a universal negative, if we can draw a good Conclusion from it, it must always be general. This is a consequence of the preceeding Corollary; for the lesser Term cannot fail being taken generally in the Minor, when it is a universal negative; whether it be its Subject (by the second Axiom) or whether it be its Attribute (by the fourth)

**R U L E 3.**

*Nothing can be concluded from two negative Propositions.*

For two negative Propositions separate the Subject from the Medium, and the Attribute from the same Medium.

Now from two things being separated from the same thing, it does not follow either that they are, or that they are not the same thing. From the Spaniards not being Turks, and from the Turks not being Christians, it does not follow that the Spaniards are not Christians; and neither does it follow that the Chinese are so, tho' they are not Turks, any more than the Spaniards.

**R U L E 4.**

*A negative Conclusion cannot be proved by two affirmative Propositions.*

For because the two Terms of the Conclusion are united with a third, it cannot be proved that they are disunited from each other.

**R U L E 5.**

The Con-  
say,  
be neg

The  
position  
parts of  
pable of  
conclud

And i  
clusion  
a genera  
ought to  
quently  
never ta

Therefo  
particula  
in the M  
Therefor  
this Map  
cannot be  
gument,

This is  
Conclusio  
must be  
according  
Rule ther  
whose At  
all the or  
consequen  
re so too,  
the thing t

That which

That wh  
concludes

## RULE 5.

*The Conclusion always follows the weakest Part, that is to say, that if one of the two Propositions be negative, it must be negative; and if one be particular it must be particular.*

The Proof of this is, that if there be a negative Proposition, the Medium is disunited from one of the parts of the Conclusion; and consequently it is incapable of uniting them, which is necessary in order to conclude Affirmatively.

And if there be one particular Proposition, the Conclusion cannot be general, For if the Conclusion is a general Affirmative, the Subject being universal, it ought to be universal also in the Minor, and consequently it ought to be its Subject, the Attribute being never taken generally in affirmative Propositions. Therefore the Medium joined to that Subject will be particular in the Minor: Therefore it will be general in the Major, because else it would be particular twice: Therefore it will be its Subject, and consequently also this Major will also be universal. And thus, there cannot be a particular Proposition in an affirmative Argument, whose Conclusion is general.

This is yet more evident in the universal negative Conclusions. For from thence it follows that there must be three universal Terms in the two Premises, according to the first Corollary. Now as by the third Rule there ought to be an affirmative Proposition, whose Attribute is taken particularly, it follows that all the other three Terms are taken universally; and consequently the two Subjects of the two Propositions are so too, which makes them universal; which was the thing to be demonstrated.

## Corollary 6.

*That which concludes the general, concludes the particular.*

That which concludes A. concludes I. that which concludes E. concludes O. But that which concludes



the particular, does not therefore conclude the general: This is a consequence of the preceding Rule and of the first Axiom. But we are to observe that Men have been pleased to consider the several sorts of Syllogisms only as to their noblest Conclusion, which is the general: So that they do not reckon that which concludes the particular, only because the general may also be concluded, to be a Species of Syllogism by it self.

Wherefore there is no Syllogism where the Major being A. and the Minor E. the Conclusion is O. For (by the fifth Corollary) the Conclusion of a universal negative Minor may always be general. So that if we cannot draw a general Conclusion, it will be because we can draw none at all. Thus A. E. O. is never a Syllogism apart. but only in as much as may be included in A. E. E.

#### RULE 6.

*From two particular Propositions follows nothing.*

For if they are both Affirmative, the Medium will be twice taken particularly, whether it be the Subject (by the second Axiom) or whether it be the Attribute (by the third Axiom) Now by the first Rule we can conclude nothing by a Syllogism, whose Medium is twice taken particularly.

And if one of the Propositions were negative, the Conclusion being so too, (by the preceding Rule) there ought to be at least two universal Terms in the Premises (according to the second Corollary.) Therefore there ought to be one universal Proposition in those two Premises, it being impossible to dispose three Terms into two Propositions, wherein there ought to be two Terms taken universally, in such a manner, as that there must not either be two negative Attributes which would be contrary to the third Rule; or some of the Subjects universal, which makes the Proposition universal.

## CHAP. IV.

*Of the Figures and Modes of Syllogisms in general.  
That there can be but four Figures.*

After having laid down the general Rules, which must indispenfibly be observed in all fimple Syllogifms, it remains to fhew how many there may be of this fort of Syllogifms.

We may fay in general, that there are as many forts as there are different ways of difpofing the three Propofitions of a Syllogifm, and the three Terms of which they confift, without breaking thefe Rules.

The Difpofitions of the three Propofitions according to their four Differences A. E. I. O. is called *Mode*.

And the Difpofition of the three Terms, that is to fay, of the Medium with the three Terms of the Conclusion, is called *Figure*.

Now we may reckon how many concluding Modes there may be, without confidering the different Figures, according to which one and the fame Mode may make divers Syllogifms. For, by the Doctrine of Combinations, four Terms (as are A. E. I. O.) being taken three by three, can be differently ranged only in 64 Manners. But of thefe 64 different Manners, thofe that will take the Pains to confider them each apart, will find that there are.

28 excluded by the third and fixth Rules, That nothing is to be concluded from two Negatives, or from two Particulars.

18 by the fifth, That the Conclusion follows the weakeft Part.

6 by the fourth, that we cannot conclude negatively from two Affirmatives.

1, namely. I E. O. by the third Corollary of the general Rules.

1, namely A. E. O. by the sixth Corollary of the general Rules.

Which make in all 54, and consequently there remain but ten concluding Modes.

4 Affirm.  $\left\{ \begin{array}{l} A. A. A. \\ A. I. I. \\ A. A. I. \\ I. A. I. \end{array} \right.$

6. Negat.  $\left\{ \begin{array}{l} E. A. E. \\ A. E. E. \\ E. A. O. \\ A. O. O. \\ O. A. O. \\ E. I. O. \end{array} \right.$

But it does not therefore follow, that there are but ten sorts of Syllogisms; but one alone of these Modes may make several sorts, according to the other Manner, from whence arises the Diversity of Syllogisms, which is the different Disposition of the three Terms, which we have already said, is called *Figure*.

Now as to this Disposition of the three Terms, it can regard only the two first Propositions, because the Conclusion is supposed before we make the Syllogism to prove it. And thus, as the Medium can be ranged only in four different Manners, with the two Terms of the Conclusion, there are also but four Figures possible.

For either the Medium is *the Subject in the Major*, and the *Attribute in the Minor*. Which makes the first *Figure*,

Or it is the *Attribute in the Major and in the Minor*, which makes the second *Figure*.

Or it is *the Subject in both*. Which makes the third *Figure*.

Or, lastly, it is the *Attribute in the Major, and the Subject in the Minor*. Which may make a fourth *Figure*.

It being certain that we may sometimes conclude necessarily in this manner, which is enough to make a Syllogism true. Examples shall be instanced hereafter.

Nevertheless, because we can conclude in this last manner, only in a manner which is by no means natural, and which never enters into any Man's Head, Aristotle and his Followers would not give this way of

Reasoning

Reason  
contrar  
Words,  
them ex

But  
fourth I  
ing kno  
and Min  
is divisib  
fore even  
should f  
for the  
stands fi  
cond. If  
Conclusi  
ment, fin  
of the th  
these Ve  
Minor th

Qui  
In cr  
Non  
Qui  
For al  
He th  
Ever  
Ther

We are  
local Dis  
no chang  
logisms o  
um is the  
Term is (  
tion( the  
(that is to  
therefore  
oned of th  
Attribute

Reasoning the Name of a Figure. *Galen* averred the contrary; and it is plain, that it is a Dispute only about Words, which should be decided by making each of them explain what he understands by the Word Figure

But those are certainly mistaken, who take for a fourth Figure (which they accuse *Aristotle* of not having known) the Arguments of the first, whose Major and Minor are transpos'd; as when we say: *Every Body is divisible; every Thing that is divisible is imperfect; therefore every Body is imperfect.* I admire that *Gassendus* should fall into this Error. For it is ridiculous to take for the Major of a Syllogism the Proposition that stands first, and for the Minor that which stands second. If this were so, we ought often to take even the Conclusion for the Major or the Minor of an Argument, since it is very commonly the first or the second of the three Propositions of which it consists; as in these Verses of *Horace*, the Conclusion is the first, the Minor the second, and the Major the third.

*Qui melior servo, qui liberior sit avarus,  
In trivis fixum cum se dimittit ad assem,  
Non vid'o : nam qui cupiet, metuet quoque ; porro,  
Qui metuens vivit, liber mihi non erit unquam.*

For all this may reduced to this Argument :

*He that is in continual Apprehensions, is not free :  
Every covetous Man is in continual Apprehensions ;  
Therefore no covetous Man is free.*

We are not therefore to have our Eye upon the bare local Disposition of the Proposition, which produces no change in the Mind; but we are to account as Syllogisms of the first Figure all those where the Medium is the Subject in the Proposition, where the greater Term is (that is to say, the Attribute of the Conclusion) (the Attribute in that where the lesser Term is (that is to say the Subject of the Conclusion.)) And therefore those only, on the contrary, are to be reckoned of the fourth Figure, where the Medium is the Attribute in the Major, and the Subject in the Minor.

And so we shall call them, hoping no body will take it amiss; since we give notice before-hand, that by this Word *Figure* we understand only a different Disposition of the Medium.

## CH A P. V.

*Rules, Modes, and Foundations of the first Figure.*

**T**HE first Figure then is that where the Medium is the Subject in the Major, and the Attribute in the Minor.

This Figure has but two Rules.

### R U L E 1.

*The Minor must be affirmative.*

For if it were negative, the Major would be affirmative by the third general Rule, and the Conclusion negative by the fifth. Therefore the greater Term would be taken universally in the Conclusion, because it would be negative, and particularly in the Major, because that it is its Attribute in this Figure, and that it would be affirmative, which would be contrary to the second Rule, which forbids concluding from the particular to the general. This Reason holds good also in the third Figure, where the greater Term is also in the Attribute in the Major.

### R U L E 2.

*The Major ought to be universal.*

For the Minor being affirmative by the preceding Rule, the Medium, which is the Attribute there, is taken particularly. Therefore it ought to be universal in the Major, where it is the Subject, which renders it universal: Otherwise it would be twice taken particularly, contrary to the first general Rule.

D E M O N



## DEMONSTRATION.

*That there can be but four Modes of the first Figure.*

We shewed in the preceding Chapter, that there can be but ten concluding Modes. But of these ten Modes, A, E E. and A. O. O. are excluded by the first Rule of this Figure, which is, that the Minor ought to be affirmative.

I. A. I. and O. A. O. are excluded by the second, which is that the Major ought to be universal.

A. A, I. and E. A. O, are excluded by the fourth Corollary of general Rules. For the lesser Term being the Subject in the Minor, it cannot be universal, but that the Conclusion may be so too.

And consequently there remain but these four Modes

2 Affirm.  $\left\{ \begin{array}{l} A. A. A. \\ A. I. I. \end{array} \right.$  2 Negat.  $\left\{ \begin{array}{l} E. A. E. \\ E. I. O. \end{array} \right.$

Which was what was to be demonstrated

These four Modes, that they might be the more easily retained, have been reduced to artificial Words, whose three Syllables denote the three Propositions, and the Vowel of each Syllable shews which this Proposition ought to be. So that these Words have this great Convenience in the Schools, that one single Word clearly expresses a sort of Syllogism, which could not otherwise be explained but by great Circumlocution.

BAR- *Whoever suffers those whom he ought to feed to die of Hunger, is a Murtherer.*

BA- *All the Rich, that do not give Alms to the Poor, suffer those to die of Hunger, whom they ought to feed;*

RA- *Therefore they are Murtherers.*

CE- *No impenitent Thief must expect Salvation.*

LA-

LA- *All those that die after having enriched themselves out of the Patrimony of the Church, without making Restitution, are impenitent Thieves ;*  
 RENT. *Therefore none such must expect Salvation.*

DA- *All that helps to Salvation is advantageous.*

RI- *There are some Afflictions that help to Salvation ;*

I. *Therefore there are some Afflictions that are advantageous,*

FE- *That which is followed by a just Repentance, is never to be desired.*

RI- *There are some Pleasures that are followed by a just Repentance.*

O. *Therefore there are some Pleasures that are not to be desired.*

*Foundation of the first Figure.*

Since in this Figure the greater Term is affirmed or denied of the Medium taken universally, and that same Medium afterwards affirmed in the Minor of the lesser Term or Subject of the Conclusion ; it is evident that it is founded only upon two Principles, the one for the affirmative Modes, the other for the negative Modes.

*Principle of the affirmative Modes.*

*That which agrees with an Idea taken universally, agrees also with every thing of which that Idea is affirmed, or which is the Subject of that Idea, or which is comprehended in the Extension of that Idea : For these Expressions are synonymous.*

Thus the Idea of *Animal* agreeing with all Men agrees also with all the *Æthiopians*. This Principle has been so thoroughly explained in the Chapter where we treated of the Nature of affirmative Propositions that it is not necessary to say any thing further of it here.

here. It will be enough to hint, that in the Schools it is generally expressed thus: *Quod convenit consequenti, convenit antecedenti*: And that by the Word consequent is understood a general Idea which is affirmed of another, and by Antecedent the Subject of which it is affirmed; because in effect the Attribute is drawn by consequence from the Subject: If he is a Man, he is an Animal.

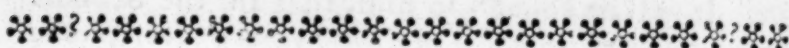
### Principle of the negative Modes.

*That which is denied of an Idea taken universally, is denied of every thing of which that Idea is affirmed.*

Tree is denied of all Animals; it is therefore denied of all Men, because they are Animals. This is expressed in the Schools thus: *Quod negatur de consequenti, negatur de antecedenti*. What we have said in treating of negative Propositions, excuses us from speaking further of it here.

We are to observe, that only the first Figure concludes all A. E. I. O.

And that only the same concludes A. The reason of which is, that to the intent that the Conclusion may be a universal Affirmative, the lesser Term must be taken generally in the Minor, and consequently be its Subject, and the Medium its Attribute: From whence it happens, that the Medium is taken here particularly. It must therefore be taken generally in the Major (by the first general Rule) and consequently be its Subject. Now in this it is that the first Figure consists that the Medium is the Subject in the Major, and the Attribute in the Minor.



## C H A P. VI.

*Rules, Modes: and Foundations of the second Figure.*

**T**HE second Figure is that where the Medium is twice the Attribute: And from thence it follows that in order to its being necessarily conclusive, the two following Rules must be observed.

## R U L E 1.

*One of the two first Propositions must be negative, and consequently the Conclusion must be so too, by the sixth general Rule.*

For if they were both affirmative, the Medium, which is always the Attribute, would be twice taken particularly, contrary to the first general Rule.

## R U L E 2.

*The Major must be universal.*

For the Conclusion being negative, the greater Term, or the Attribute, is taken universally. Now this same Term is the Subject of the Major. Therefore it ought to be universal, and consequently it must make the Major universal.

## D E M O N S T R A T I O N.

*That there can be but four Modes in the second Figure.*

Of the ten concluding Modes, the four affirmative are excluded by the first Rule of this Figure, which is, that one of the Premises ought to be negative.

O. A. O. is excluded by the second Rule, which is, that the Major ought to be universal.

E

E. A  
it is ex  
Term i  
Of th

2 Ge

Which  
Thes  
artificia

CE  
SA  
RE

CA  
MES

TRES

FES-  
TI-

NO.

BA-  
RO-  
CO.

It woul  
Argument  
Words; b  
Principle,  
dence and  
ciples is c

E. A. O. is excluded here for the same Reason that it is excluded in the first Figure, because the lesser Term is also the Subject in the Minor.

Of these ten Modes therefore remain but these four.

|             |                      |   |              |                      |
|-------------|----------------------|---|--------------|----------------------|
| 2 General { | E. A. E.<br>A. E. E. | 2 | Particular { | E. I. O.<br>A. O. O. |
|-------------|----------------------|---|--------------|----------------------|

Which was the Thing to be demonstrated.

These four Modes have been comprized under these artificial Words.

- |       |                                                                         |
|-------|-------------------------------------------------------------------------|
| CE-   | <i>No Liar is to be believed :</i>                                      |
| SA-   | <i>Every good Man is to be believed ;</i>                               |
| RE-   | <i>Therefore no good Man is a Liar.</i>                                 |
| CA-   | <i>All that are of Jesus Christ, crucify the Flesh.</i>                 |
| MES-  | <i>All that lead a soft luxurious Life do not crucify the Flesh :</i>   |
| TRES- | <i>Therefore none such are of Christ.</i>                               |
| FES-  | <i>No Virtue is contrary to the Love of Truth :</i>                     |
| TI-   | <i>There is a Love of Peace that is contrary to the Love of Truth ;</i> |
| NO-   | <i>Therefore there is a Love of Peace that is no Virtue.</i>            |
| BA-   | <i>Every Virtue is accompanied with Discretion :</i>                    |
| RO-   | <i>There is a Zeal without Discretion ;</i>                             |
| CO-   | <i>Therefore there is a Zeal that is no Virtue.</i>                     |

*Foundation of the second Figure.*

It would be easy to reduce all these various sorts of Arguments to one and the same Principle in a few more Words ; but it is better to reduce two of them to one Principle, and two to another, because the Dependence and Connection they have with those two Principles is clearer and more immediate.

*First*



*First Principles of Arguments in Cesare and Festino.*

The first of these Principles is that which also serves for a Foundation to the negative Arguments of the first Figure ; to wit, *That what is denied of a universal Idea, is also denied of every Thing of which that Idea is affirmed, that is to say, of all the Subjects of that Idea.* For it is evident that the Arguments in *Cesare* and in *Festino* are established upon this Principle. To shew, for instance, that no good Man is a Liar, I have affirmed, *to be believed*, of every good Man, and denied *Liar* of every Man that is to be believed, by saying that no Liar is to be believed. It is true, that this way of denying is indirect, since instead of denying *Liar* of *believable*, I have denied *believable* of *Liar*. But as negative universal Propositions are simply denied ; by denying the Attribute of a universal Subject, we deny that universal Subject of the Attribute.

This however shews, that Arguments in *Cesare* are in some manner indirect, since what ought to be denied in them, is only denied in them indirectly ; but as this does not hinder the Mind from taking the Strength of the Argument clearly and easily, they may be reckoned direct ; understanding that Term to signify clear and natural.

This also shews, that these two Modes, *Cesare* and *Festino*, differ from the two of the first Figure, *Celarent* and *Ferio*, only in that its Major is inverted. But tho' it may be said, that the negative Modes of the first Figure are more direct ; yet it often happens, that these two of the second Figure, which answer to them are more natural, and that the Mind more easily falls upon them. For in that, for instance, which we just now proposed, tho' the direct Order of the Negation required us to say : *No Man that is to be believed is a Liar*, which would have made an Argument in *Celarent* ; yet our Mind is more naturally inclined to say, that no Liar is to be believed.

Prin

In th  
Attribu  
ject. W  
upon th  
Extensio  
Subjects  
position  
in the se

True  
fion of  
table :  
Poor ;  
towards

Every  
No M  
Therej  
true C

\*\*\*

Rules,

IN the  
From

Which  
the first  
Conclusio

*Principle of Arguments in Camestres and Baroco.*

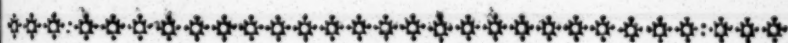
In these two Modes the Medium is affirmed of the Attribute of the Conclusion, and denied of the Subject. Which shews that they are established directly upon this Principle: *All that is comprehended within the Extension of a universal Idea can agree with none of the Subjects of which it is denied, the Attribute of a negative Proposition being taken in its full Extension, as has been proved in the second Part.*

True Christian is comprehended within the Extension of charitable, since every true Christian is charitable: Charitable is denied of merciless towards the Poor; therefore true Christian is denied of merciless towards the Poor. Which produces this Argument:

*Every true Christian is charitable:*

*No Man that is merciless towards the Poor is charitable;*

*Therefore no Man that is merciless towards the Poor is a true Christian.*



## C H A P. VII.

*Rules, Modes, and Foundations of the third Figure.*

IN the third Figure the Medium is twice the Subject.  
From whence it follows:

## R U L E I.

*That it's Minor ought to be affirmative.*

Which we have already proved by the first Rule of the first Figure, because, in both, the Attribute of the Conclusion is the Attribute also in the Major.

## R U L E 2;

## R U L E 2.

*We can conclude only particularly in it.*

For the Minor being always affirmative, the lesser Term, which is here the Attribute, is particular. Therefore it cannot be universal in the Conclusion, where it is the Subject, because this would be to conclude the general of the Particular, contrary to the second general Rule.

## D E M O N S T R A T I O N.

*That there can be but six Modes in the third Figure.*

Of the ten concluding Modes, A. E. E. and A. O. O. are excluded by the first Rule of this Figure, which is, that the Minor cannot be negative.

A. A. A. and E. A. E. are excluded by the second Rule, which is, that the Conclusion cannot be general. There remains then but six Modes.

|           |   |          |          |   |          |
|-----------|---|----------|----------|---|----------|
| 3 Affirm. | { | A. A. I. | 3 Negat. | { | E. A. O. |
|           |   | A. I. I. |          |   | E. I. O. |
|           |   | I. A. I. |          |   | O. A. O. |

Which was what was to be demonstrated.

This has been reduced to these six artificial Words, tho' in another Order.

- DA- *The infinite divisibility of Matter is incomprehensible.*
- RA- *The infinite divisibility of Matter is very certain.*
- PTI. *Therefore there are very certain Things that are incomprehensible.*
- FE- *No Man can part from himself:*
- LA- *Every Man is his own Enemy;*
- PTON. *Therefore there are Enemies that we cannot part from.*
- DI- *There are wicked Men in the most flourishing Fortunes -*

SA-MIS.

DA-TI-SI.

BO.

CAR-DO.

FE-RI-SON.

The two  
the two  
serves as t  
Modes of  
P

then two  
they may  
larly,

For bei

both agree

united tog

affirmed th

re may be

one and

medium m

if it wo

two differ

ould not

SA- *All wicked Men are miserable ;*  
 MIS. *Therefore there are Men miserable in the most*  
*flourishing Fortunes.*

DA- *Every Servant of God is a King :*  
 TI- *There are some Servants of God that are Poor :*  
 SI. *Therefore there are some poor Men that are Kings:*

BO- *There are some sorts of Anger that are not blame-*  
*able.*

CAR- *Every sort of Anger is a Passion ;*  
 DO. *Therefore there are some Passions that are not*  
*blameable.*

FE- *No Folly is eloquent :*  
 RI- *There are some Follies put into Figure ;*  
 SON. *Therefore there are some Figures that are not elo-*  
*quent.*

*Foundation of the third Figure.*

The two Terms of the Conclusion being attributed  
 to the two Premises to one and the same Term, which  
 serves as the Medium, we may reduce the affirmative  
 Modes of this Figure to this Principle.

*Principle of the affirmative Modes.*

*When two Terms may be affirmed of one and the same Thing,*  
*they may also be affirmed one of the other, taken particu-*  
*larly,*

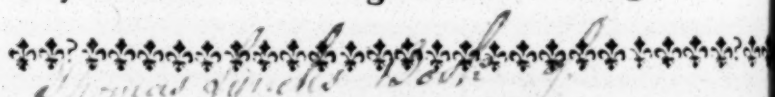
For being united together in that thing, since they  
 both agree with it, it follows that they are sometimes  
 united together, and consequently that they may be  
 affirmed the one of the other particularly. But that  
 we may be assured that two Terms have been affirmed  
 of one and the same thing, which is the Medium ; that  
 Medium must at least once be taken universally ; for  
 if it were twice taken particularly, they might be  
 two different Parts of one common Term, which  
 would not be the same Thing.

Prin-

## Principle of the negative Modes.

*When of two Terms one may be denied, and the other affirmed of the same Things, they may be denied particularly the one of the other.*

For it is certain, that they are not always joined together, since they are not joined in this thing: Therefore they may sometimes be denied the one of the other; that is to say, they may be denied the one of the other taken particularly. But for the same Reason, the Medium must at least once be taken universally in order to its being the same Thing.



## C H A P. VIII.

*Of the Modes of the fourth Figure.*

**T**HE fourth Figure is that wherein the Medium is the Attribute in the Major, and the Subject in the Minor. It is so little natural that it would hardly be worth while to lay down Rules for it, were it not that nothing may be wanting to the Demonstration of all the simple manner of reasoning.

## R U L E 1.

*When the Major is affirmative, the Minor is always universal.*

For the Medium is taken particularly in the affirmative Major, because it is its Attribute. It must therefore (by the first general Rule) be taken generally in the Minor, and consequently render it universal, because it is its Subject.

## R U L E 2.

*When the Minor is affirmative, the Conclusion is always particular.*



For the lesser Term is the Attribute in the Minor, and consequently it is there taken particularly when it is affirmative; from whence it follows (by the 2d general Rule) that it must also be particular in the Conclusion; which renders it particular, because it is its Subject.

RULE 3.

*In the negative Modes the Major ought to be general.*  
For the Conclusion being negative, the greater Term is taken there generally: It must therefore (by the 2d general Rule) be also taken generally in the Premises. Now it is the Subject of the Major, as well as in the 2d Figure; and consequently as well in this as in the 2d Figure, being taken generally, it must make the Major general.

DEMONSTRATION.

*That there can be but five Modes in the four Figures.*

Of the ten concluding Modes, A. I. I. and A. O. O. are excluded by the first Rule.

A. A. A. and E. A. E. by the second.

O. A. O. by the third.

So that there remains no more than these five.

|           |                        |          |                                    |
|-----------|------------------------|----------|------------------------------------|
| 2 Affirm. | { A. A. I.<br>I. A. I. | 3 Negat. | { A. E. E.<br>E. A. O.<br>E. I. O. |
|-----------|------------------------|----------|------------------------------------|

These five Modes may be included in these artificial words.

BAR- *All the Miracles of Nature are ordinary.*

B A- *Every thing that is ordinary does not strike us;*

R I. *Therefore there are things that do not strike us, which are Miracles of Nature.*

CA- *All the Evils of Life soon pass away.*

LEN- *All transitory Evils are not to be feared;*

T E S *Therefore none of the Evils that are to be feared are Evils of this Life.*

- D. I. *Some Fools speak Truth:*  
 B. A. *Whoever speaks Truth deserves to be followed;*  
 T. I. S. *Therefore there are some of them that deserve to be followed, though they still are Fools.*  
 F. E. S. *No Virtue is a natural Quality:*  
 P. A. *Every natural Quality has God for its first Author;*  
 M. O. *Therefore there are Qualities that have God for their Author which are not Virtues.*  
 F. R. E. *No wretched Man is content:*  
 S. I. *There are some Persons content who are poor;*  
 S. O. M. *Therefore there are some poor Men that are not wretched.*

It may not be amiss to give notice, that these five Modes are generally expressed thus: *Baralippton, Celantes, Dabitis, Fapesmo, Frisemorum*; which proceeded from this, that *Aristotle* not having made a separate Figure of these Modes, they have been looked upon to be only indirect Modes of the first Figure, under Pretence that the Conclusion was inverted, and that its Attribute was its true Subject. For which Reason those who have follow'd this Opinion, have put for the first Proposition that where the Subject of the Conclusion has a Place; and for the Minor that where in stands the Attribute.

And thus they have given nine Modes to the first Figure, four direct, and five indirect, which they have included in these two Verses.

*Barbara, Celarent, Darii, Ferio, Baralippton,  
 Celantes, Dabitis, Fapesmo, Frisemorum.*

And for the other two Figures:

*Cesare, Camestres, Festino, Baroco, Darapt,  
 Felapton, Disamis, Datisi, Bocardo, Ferison.*

But as the Conclusion being always supposed (since it is what is always to be proved) cannot properly be

be ever  
 better al  
 where th  
 which  
 order to  
 Retentio  
 Barba

From  
 there a  
 divided

1. Int

3.

4. A  
 ding th  
 sufficien  
 5. O  
 by sub  
 again p  
 there a  
 one sing  
 Figures



Of com  
 into  
 Rule

IT m  
 who

be ever said to be inverted, we thought it would be better always to take for the Major that Proposition where the Attribute of the Conclusion has Entrance ; which obliged us to invert these artificial Words in order to put the Major first. So that for their better Retention they may be included in this Verse :

*Barbari, Calentes, Dibatis, Fespmo. Frisesom.*

### RECAPITULATION

*Of the several sorts of Syllogisms.*

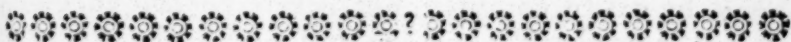
From all that has been said we may conclude, that there are nineteen sorts of Syllogisms, which may be divided in several manners.

1. Into { General 5.      2. Into { Affirmative 7.  
              { Particular 14.                       { Negative 12.

3. Into those which conclude {  
                                              { A. 1.  
                                              { E. 4.  
                                              { I. 6.  
                                              { O. 8.

4. According to the different Figures by subdividing them by the Modes, which has already been sufficiently done in the Explication of each Figure.

5. Or, on the contrary, according to the Modes, by subdividing them by the Figures; which will again produce nineteen sorts of Syllogisms, because there are three Modes, whereof each concludes only in one single Figure ; six, whereof each concludes in two Figures ; and one, which concludes in all the four.



### C H A P. IX.

*Of complex Syllogisms, and how they may be reduced into common Syllogisms, and judged of by the same Rules.*

IT must be confessed, that if there are some to whom Logic is of use, there are many to whom it is

is of disadvantage; and it must at the time be acknowledged that there are none whom it more hurts than those who value themselves most upon it and who affect with greatest Vanity to appear good Logicians: For this very Affectation being the signs of a superficial little Mind, it happens that applying themselves more to the Bark of the Rules, than to good Sense, which is the Heart of them, they are easily induced to reject Arguments that are indeed very good because they have not depth enough to adjust them to the Rules, which on'y help to lead them into mistakes, being but very imperfectly understood by them.

To avoid this Fault, which has a strong Tincture of Pedantry unbecoming a Gentleman, we should examine the Solidity of an Argument rather by the natural Light of Reason than by the Forms; and one of the best means of succeeding in it, when any difficulty appears, is to make others of the same Nature upon different Matters and when we plainly find, that in good Sense it concludes duly, if at the same time we perceive that it contains something which we do not think conformable to the Rules, we ought rather to believe that it is more for want of our distinguishing properly, than from their being really contrary to them.

But the Arguments of which it is more difficult to judge rightly, and wherein it is very easy to be deceived, are those, which, as we have already said, may be called complex, not barely because they contain a complex Proposition, but because the Terms of the Conclusion being complex, were not taken quite entire in each of the Premisses to be joined with the Medium, but only a part of one of the Terms. As in this Example:

*The Sun is an insensible Thing:*

*The Persian adorned the Sun;*

*Therefore the Persians adorned an insensible Thing.*

Where

Where  
Attribut  
is put in  
adorned it  
Now,  
shall do  
may be r  
we have  
the same  
And in  
general  
Goodnes  
without  
It is a  
valued p  
aver, tha  
the Scier  
that hard  
of some u  
laying do  
all the E  
clear, th  
pose the  
ever hea  
Man is a  
an Anima  
But lit  
of Syllog  
complex,  
there are  
seem to b  
that besi  
frequent  
will be r  
Rules.

Where we see, that the Conclusion having for its Attribute, *adored an insensible Thing*, only a part of it is put in the Major, namely *an insensible Thing*, and *adored* in the Minor.

Now, with relation to these sorts of Syllogisms we shall do two Things. We shall shew, 1<sup>st</sup>, how they may be reduced to the incomplex Syllogisms, of which we have hitherto treated in order to judge of them by the same Rules.

And in the second Place we shall shew, that more general Rules may be given to judge at sight of the Goodness and Weakness of these complex Syllogisms, without the help of any Reduction

It is a very unaccountable thing that tho' Logic is valued perhaps above its deserts, even so far as to aver, that it is absolutely necessary for the attaining the Sciences, yet it is treated of with so little care, that hardly any thing is said of such things as may be of some use. For Authors are generally contented with laying down Rules for simple Syllogisms; and almost all the Examples produced to explain them, are so clear, that no Body ever took it in his Head to propose them seriously in any Discourse. For who was ever heard to form such Syllogisms as these? Every Man is an Animal: *Peter* is a Man; therefore *Peter* is an Animal.

But little care has been taken to apply the Rules of Syllogisms to Arguments, whose Propositions are complex, though this be often pretty difficult, and that there are several Arguments of this Nature, which seem to be bad, when really they are very good; and that besides the use of such Arguments is much more frequent than that of Syllogisms meerly simple. This will be more clearly perceived by Examples than by Rules.



## EXAMPLE I.

We have said, for Example that all the Propositions composed of Verbs active, are complex in some manner; and of these Propositions Arguments are often made, whose Form and Strength it is difficult to conceive, as this which we have already proposed by way of Example.

*The divine Law commands us to honour Kings:*

*Louis XIV. is a King;*

*Therefore the divine Law command us honour Louis XIV.*

Some Persons of weak Understanding have accused this sort of Syllogisms of being defective; because they say they, they are composed of pure Affirmatives in the second Figure, which is an essential Fault. But such persons have plainly shewed, they consulted the Letter and Bark of the Rules more than the Light of Reason, by which those Rules were found out. For this Argument is so true and so concluding, that if it were contrary to the Rule, it would be Proved that the Rule were false and not the Argument bad.

I say then, 1st, that this Argument is good. For in this Proposition: *The divine Law commands us to honour Kings*; this Word *Kings* is taken generally for all Kings in particular; and consequently *Louis XIV.* is of the number of those whom the divine Law commands us to honour.

I say, in the 2d place, that *King*, which is the Medium, is not the Attribute in this Proposition. *The divine Law, commands us to honour Kings*; though it be joined to the Attribute *commands*, which is very different. For that which is a real Attribute is affirm'd, and agrees: Now *King* is not affirm'd, and does not necessarily agree with the Law of God: 1. The Attribute is restrained by the Subject. Now the Word *King* is not restrained in this Proposition; *The divine Law commands us to honour Kings*, since it is taken generally

But i  
answer,  
included  
Law com  
mand t  
For it i  
Law con

So ag  
mands u  
Attribut  
contrary  
For it i

that Lou  
Thus  
manner.

The d  
Louis  
Theref  
be h

It is e  
these Pr

Kings  
Louis  
Theref

And tha  
which se  
only inc  
to the A

as a Pro  
It is al  
Figure i  
passing fo  
whole E

For th

But if any one ask what it is then ? it is easy to answer, that it is the Subject of another Proposition included in that. For when I say, that the Divine Law commands us to honour Kings, as I attribute Command to the Law, so I attribute Honour to King : For it is the very same thing as if I said, *The divine Law commands that Kings be honoured.*

So again, in this Conclusion : *The divine Law commands us to honour Louis XIV.* Louis XIV is not the Attribute, though joined to the Attribute ; but on the contrary he is the Subject of the included Proposition. For it is just as if I said : *The divine Law commands that Louis XIV be honoured.*

Thus these Propositions being disentangled in this manner.

*The divine Law commands that Kings be honoured :*

*Louis XIV is a King ;*

*Therefore the divine Law commands that Louis XIV be honoured.*

It is evident, that the whole Argument consists in these Propositions ,

*Kings ought to be honoured :*

*Louis XIV is a King ;*

*Therefore Louis XIV ought to be honoured :*

And that this Proposition ; *The divine Law commands,* which seemed to be the principal, is a Proposition only incidental to this Argument, which is joyned to the Affirmation, to which the Divine Law serves as a Proof.

It is also manifest, that this Argument is of the first Figure in *Barbara*, the singular Terms, as *Louis XIV*, passing for universal, because they are taken in their whole Extent, as we have already observed.

## EXAMPLE 2.

For the same reason this Argument, which seems to

be of the second Figure, and conformable to the Rules of that Figure, is good for nought.

*We ought to believe the Scripture :*

*Tradition is not Scripture ;*

*Therefore we ought not to believe Tradition.*

For it should be reduced to the first Figure, as thus :

*The Scripture ought to be believed :*

*Tradition is not Scripture ;*

*Therefore Tradition ought not to be believed.*

Now we can conclude nothing in the first Figure from a negative Minor.

#### EXAMPLE 3.

There are other Arguments that seem to be mere Affirmatives in the 2d Figure, and which yet are very good : As,

*Every good Pastor is ready to lay down his Life for his Sheep :*

*Now there are few Pastors at this Day that are ready to lay down their Life for their Sheep ;*

*Therefore at this Day there are few good Pastors.*

But what makes this Argument good is, that in it we conclude affirmatively only in appearance. For the Minor is an exclusive Proposition, which in its Sense contains this Negative : *Many of the Pastors at this Day are not ready to lay down their Life for their Sheep :* And the Conclusion also may naturally be reduced to this Negative : *Many of the Pastors at this Day are not good Pastors.*

#### EXAMPLE 4.

Here follows another Argument which being of the first Figure, seems to have a negative Minor and which yet is very good.

*All those who cannot be robbed of what they love are out of the reach of their Enemies :*

*Now when a Man loves nothing but God, he cannot be robbed of that which he loves ;*

The

*Therefore all those who love nothing but God, are out of the reach of their Enemies.*

What makes this Argument very good, is, that the Minor is negative only in appearance, and is in effect affirmative.

For the Subject of the Major, which ought to be the Attribute in the Minor, is not *those who can be robbed of what they love*; but on the contrary, *those who cannot be robbed of it*. Now this is what is affirmed of those who love nothing but God; so that the Sense of the Minor is:

*Now all those that love nothing but God, are of the number of those who cannot be robbed of what they love; which is visibly an affirmative Proposition.*

## EXAMPLE 5.

This is what happens again, when the Major is an exclusive Proposition: As,

*Only the Friends of God are happy:*

*Now there are rich Men who are not the Friends of God;*  
*Therefore there are rich Men who are not happy.*

For the Particle *only* makes the first Proposition of this Syllogism be equivalent to these two: *The Friends of God are happy; and all other Men who are not Friends of God are not happy.*

Now as it is upon this second Proposition, that the Strength of the Argument depends, the Minor, which seemed to be negative, becomes affirmative; because the Subject of the Major, which ought to be the Attribute in the Minor, is not *Friends of God*, but *those who are not Friends of God*; so that the whole Argument ought to be taken thus:

*All those who are not Friends of God are not happy:*

*Now there are rich Men who are of the number of those who are not Friends of God;*

*Therefore there are rich Men who are not happy.*

But what makes it unnecessary to express the Minor in that order, and to take from it the appearance of a negative Proposition, is, that it is the same thing

thing to say negatively, that a Man is not the Friend of God; as to say affirmatively, that he is no Friend of God; that is to say, of the number of those who are not Friends of God.

## EXAMPLE 6.

There are many of the like Arguments, whereof all the Propositions seem negative, and which yet are very good, because there is one of them that is negative only in appearance, and affirmative in effect; as we just now shewed, and as will further appear by this Example.

*That which has no Parts cannot perish by the Dissolution of its Parts:*

*Our Soul has no Parts;*

*Therefore our Soul cannot perish by the Dissolution of its Parts.*

There are some that produce this kind of Syllogism to prove, that we are not to pretend that this Axiom of Logic, *We can conclude nothing from pure Negatives*, is true generally, and without distinction: But they did not take notice, that in the real Sense, the Minor of this Syllogism, and others the like, is affirmative; because the Medium, which is the Subject of the Major, is its Attribute. Now the Subject of the Major is not, *that which has Parts*, but *that which has no Parts*. And thus the Sense of the Minor is; *Our Soul is a thing which has no Parts*, which is a Proposition affirmative of a negative Attribute.

The same Persons again maintain, that negative Arguments are sometimes concluding, upon account of these Examples: *John is not rational, therefore he is not Man. No Animal sees, therefore no Man sees.* But they should consider, that these Arguments are only Enthymemes, and that no Enthymeme concludes any otherwise than in virtue of a Proposition understood and which consequently ought to be in the Mind

tho'



Friend tho' not express'd Now in both of these Examples,  
 Friend the Proposition understood is necessarily affirmative  
 se who In the first, this, *every Man is Rational ; John is not Ra-*  
 re of all tional ; therefore *John is not a Man.* And in the other :  
 yet are *Every Man is an Animal : No Animal sees ; therefore no*  
 is nega Man sees. Now no body can say, that these Syllogi-  
 fect ; as sms are pure Negatives. And consequently *Enthy-*  
 pear b memes that conclude only because they include these  
 Syllogisms entire in the Mind of him that makes them,  
 cannot be brought as Instances to shew that some-  
 times there are Arguments made up of pure Nega-  
 tives, which are conclusive.

issolution

ion of it

yllogism

is Axiom

atives, is

they did

Minor of

rmative ;

f the Ma-

ne Major

s no Part

l is a thing

firmative

negative

n account

efore he

sees. But

are only

les any o

nderstood

the Mind

tho



## CHAP. X.

*A general Principle, by which, without any Reduction to the Figures and the Modes, we may judge of the goodness or viciousness of any Syllogism.*

WE have seen how we may judge whether complex Arguments are conclusive or vicious, by reducing them to the Form of the most common Arguments, in order to judge of them by the common Rules. But as it is not probable that our Mind shou'd stand in need of this Reduction before it make such a Judgment ; we were apt to believe that there must be some more general Rules, whereon even the common ones must be grounded, by which we might more easily discover the goodness or defect of all sorts of Syllogisms. And what we thought upon this Subject was this.

When we would prove a Proposition whose Truth does not evidently appear, all that we have to do, seems to be to find out a Proposition better known, that may confirm the other, which for that reason

may be called the *containing* Proposition: But because it cannot contain it expressly and in the same Terms; since if it did so, it would not be at all different from it, and so would be of no use for making it clear; it is necessary there should be yet another Proposition, to shew that that which we have called *containing*, does indeed contain that which it is the design to prove. And this may be called *Applicative*.

In affirmative Syllogisms it is often indifferent, which of the two is called *containing*; because they both in some sort contain the Conclusion, and mutually serve to shew that the other contains it.

For Example, if I doubt whether a vicious Man be miserable, and argue thus:

*Every one that is a Slave to his Passion is miserable:*

*Every vicious Man is a Slave to his Passions;*

*Therefore every vicious Man is miserable.*

Whatever Proposition you take, you may say that it contains the Conclusion, and that the other shews it. For the Major contains it, because *Slave to his Passions* contains within it self *vicious*; that is to say, *vicious* is included in its extent, and is one of its Subjects as the Minor shews. And the Minor contains it also; because *Slave to his Passions* comprehends in its Idea that of *miserable*, as the Major shews.

Nevertheless as the Major is almost always more general, it is usually looked upon to be the *containing* Proposition, and the Minor as *applicative*.

As for negative Syllogisms, as they have but one negative Proposition; and as the Negation is properly included in the Negation only, it seems that the negative Proposition ought always to be taken for the *containing*, and the Affirmative for the *Applicative* only; whether the Negative be the Major, as in *Celarent*, *Ferio*, *Cesare*, *Festino*; or whether it be the Minor, as in *Camestres* and *Baroco*.

For if I prove by this Argument that no covetous Man is happy:

Every

*Every happy Man is content :  
 No covetous Man is content ;  
 Therefore no covetous Man is happy.*

It is more natural to say that the Minor which is negative, contains the Conclusion which also is negative ; and that the Major is to shew that it contains it: For this Minor *No covetous Man is content*, totally separating *content* from *covetous*, does also separate from it *happy* ; since according to the Major, *happy* is totally included in the extent of *content*.

It is not hard to shew that all the Rules we have given, serve only to prove that the Conclusion is contained in one of the first Propositions, and that the Conclusion shews it ; and that Arguments are vicious only when we fail to observe this, and that they are always good when we do observe it. For all these Rules may be reduced to two principal ones, which are the Foundation of the others. The one, *that no Term can be more general in the Conclusion than in the Premisses*. Now this visibly depends upon this general Principle, *that the Premisses ought to contain the Conclusion*. Which could not be, if the same Term being in the Premisses and in the Conclusion, it had less extent in the Premisses than in the Conclusion: For the less general does not contain the more general ; *some Man* does not contain *all Men*.

The other general Rule is, *that the Medium ought at least once to be taken universally* : Which depends again upon this Principle, *that the Conclusion ought to be contained in the Premisses*. For suppose we were to prove that *some Friend of God is Poor*, and that in order thereto we us'd this Proposition, *some Holy Man is Poor* : I say that it will never evidently be seen that this Proposition contains the Conclusion, but by another Proposition, where the Medium, which is *holy Man*, must be taken universally. For it is evident that to the intent that this Proposition, *some holy Man is Poor*, may contain the Conclusion *some Friend of God is Poor* ; it is necessary

necessary and sufficient that the Term *some Holy Man* contain the Term *some Friend of God*; since for the other they have it in common. Now a particular Term has no determined extent, and it certainly contains no more than what it includes in its Comprehension and Idea.

And consequently, to the intent that the Term *some holy Man*, may contain the Term *some Friend of God*; it is necessary that *Friend of God* be contained in the comprehension of the Idea of *holy*.

Now all that is contained in the comprehension of an Idea, may be universally affirmed of it: All that is included within the comprehension of the Idea of *Triangle* may be affirmed of *every Triangle*: All that is included within the Idea of *Man*, may be affirmed of *every Man*: And consequently to the intent that *Friend of God* may be included within the Idea of *holy Man* it is necessary that *every Holy Man be the Friend of God*. From whence it follows that this Conclusion, *some Friend of God is Poor*, cannot be contained in this Proposition, *some Holy Man is Poor*, where the Medium *holy Man* is not taken particularly, but by virtue of a Proposition where it may be taken universally, since it ought to shew, that a *Friend of God* is contained in the comprehension of the Idea of *holy Man*. This is what cannot be shewn any otherwise than by affirming *Friend of God of holy Man* taken universally, *every holy Man is the Friend of God*. And consequently none of the Premisses would contain the Conclusion, if the Medium being taken particularly in one of the Propositions, were not taken universally in the other. Which was the thing to be demonstrated.



## C H A P. XI.

*Application of this general Principle to several Syllogisms which seem to be intricate.*

**K** Nowing then by what we have said in the second Part, what we mean by the extent and the comprehension of Terms, whereby we may judge when a Proposition does or does not contain another; we may judge of the goodness or badness of any Syllogism, without considering whether it be simple or compound, complex or incomplex, and without giving any attention to the Figures or to the Modes, by this one general Principle: *That one of the two Propositions ought to contain the Conclusion, and the other to shew that it does contain it.* This will be better comprehended by Examples.

## EXAMPLE I.

I doubt whether this Argument be good.

*It is a Christian's duty not to praise those that commit wicked Actions :*

*Now those that fight Duels commit a wicked Action ;*

*Therefore it is a Christian's duty not to praise those that fight Duels.*

I have nothing to do to trouble my self to know into what Figure or what Mode it may be reduced. But it is enough for me to consider whether the Conclusion be contained in one of the two first Propositions, and whether the other shews it to be so. And I immediately find that the first differing in nothing from the Conclusion, except that there is in one, *those that commit wicked Actions*, and in the other, *those that fight Duels*: That wherein there is, *commit wicked Actions*, will contain that wherein there is, *fight Duels* provided



provided that *commit wicked Actions* do contain fight Duels.

Now it is manifest by the Sense, that the Term, *those that commit wicked Actions*, is taken universally, and extends to all those that commit any wicked Actions whatsoever. And thus the Minor *those that fight Duels commit a wicked Action*, shewing that to fight Duels is contained under this Term, *commit wicked Actions* does also shew that the first Proposition contains the Conclusion.

#### EXAMPLE 2.

I doubt whether this Argument be good.

*The Gospel promises Salvation to Christians :*

*There are wicked Men that are Christians ;*

*Therefore the Gospel promises Salvation to wicked Men.*

To judge of it I need only to observe that the Major cannot contain the Conclusion, unless the Word *Christians* be taken generally for *all Christians*, and not for *some Christians only*. For if the Gospel promises Salvation only to some Christians, it does not follow that it promises it to wicked Men that are Christians; because those wicked Men may be not of the number of those Christians to whom the Gospel promises Salvation. Wherefore this Argument concludes well; but the Major is false, if the Word *Christians* be taken in the Major for *all Christians*; and it concludes ill, if it be taken only for *some Christians*; for then the first Proposition wou'd not contain the Conclusion.

But to know whether it ought to be taken universally, must be done by another Rule which we have given in the second Part, viz. that *except in matters of Fact, the thing of which we affirm is taken universally when it is indefinitely expressed*. Now tho' those that *commit wicked Actions*, in the first Example, and *Christians* in the second, be part of an Attribute, they nevertheless supply the place of the Subject in respect of the other part of the same Attribute. For

they  
ough  
mife  
strain  
thus  
Major  
by the  
the G  
becaul  
mably

It is  
gumen  
The  
Bishop  
Ther

Bishops.

For

Conclu

Laws c

mand a

shew th

secular

secular

the Maj

mand be

Conclusi

son why

Christia

things tha

Now a

Theref

their Ma

For th

Minor, a

things w

the

they are the things of which we affirm, that they ought not to be praised, or that they have the promise of Salvation. And consequently not being restrained, they ought to be taken universally: And thus both Arguments are good in Form; but the Major of the second is false, unless we will understand by the word *Christians*, those that live conformably to the Gospel, in which case the Minor would be false, because there are no wicked Men that live conformably to the Gospel.

## EXAMPLE 3.

It is easy to see by the same Principle that this Argument is stark naught.

*The divine Law commands us to obey secular Magistrates; Bishops are not secular Magistrates;*

*Therefore the divine Law does not command us to obey Bishops.*

For neither of the first Propositions contains the Conclusion since it does not follow from the divine Laws commanding one thing, that it does not command another: And thus the Minor does indeed shew that *Bishops* are not comprized under the Word *secular Magistrates*; and that the command to honour *secular Magistrates* does not comprize *Bishops*: But the Major does not say that God made no other command besides that, as it ought to do to include the Conclusion in virtue of that Minor, which is the Reason why this other Argument is good.

## EXAMPLE 4.

*Christianity obliges Servants to obey their Masters only in things that are not contrary to the Law of God:*

*Now a vicious intrigue is contrary to the Law of God;*

*Therefore Christianity does not oblige Servants to obey their Masters in vicious Intrigues.*

For the Major contains the Conclusion since by the Minor, *vicious Intrigue* is contained in the number of things which are contrary to the Law of God; and

the Major being exclusive, is equivalent to having said, *The divine Law does not oblige Servants to obey their Masters in any thing contrary to the Law of God.*

## EXAMPLE 5.

We may easily resolve this common Sophism by this single Principle.

*He that says you are an Animal says true :*

*He that says you are a Goose, says that you are an Animal ;*

*Therefore he that says you are a Goose, says true.*

For it is enough to answer that neither of the two first Propositions contains the Conclusion ; since if the Major contained it, differing from the Conclusion only in that there is *Animal* in the Major, and *Goose* in the Conclusion, *Animal* must contain *Goose*. But *Animal* is taken particularly in this Major, since it is the Attribute of this incident affirmative Proposition, *you are an Animal*; and consequently it could not contain *Goose* any otherwise than in its comprehension. To prove which it would oblige the Propounder to take the Word *Animal* universally in the Minor, by affirming *Goose* of every *Animal* : Which neither is nor can be done, since *Animal* is again taken particularly in the Minor, being again here as well as in the Major the Attribute of this incident affirmative Proposition, *you are an Animal*.

## EXAMPLE 6.

By this too we may resolve this ancient Sophism quoted by St. *Austin* :

*You are not what I am :*

*I am a Man ;*

*Therefore you are not a Man.*

This Argument is invalid by the Rules of Figures, because it is of the first, and that the first Proposition, which is its Minor, is negative. But it suffices to say, that the Conclusion is not contained in the first of these Propositions, and that the other Proposition (I

*am a Man*) does not shew it to have been contained therein. For the Conclusion being negative, the Term *Man* is taken there universally, and therefore is not contained in the Term *what I am*; because he that says so is not *all Men*, but only *some Man*; as appears from his saying barely in the applicative Proposition, *I am a Man*; where the Term *Man* is restrained to a particular signification, because it is the Attribute of an affirmative Proposition. Now the general is never contained in the Particular.

## CHAP. XII.

### *Of conjunctive Syllogisms*

**A**LL those Syllogisms, whose Propositions are conjunctive, or compounded, are not conjunctive Syllogisms; but those whose Major is compounded in such a manner that it includes the whole Conclusion. They may be reduced to three Kinds; the *conditional* the *disjunctive* and the *copulative*.

#### *Of conditional Syllogisms.*

Conditional Syllogisms are those, whose Major is a conditional Proposition, that contains the whole Conclusion, as;

*If there be a God, we ought to love him:*

*But there is a God;*

*Therefore we ought to love him.*

The Major hath two Parts: The first is called the Antecedent, *If there be a God*; the second the Consequent, *we ought to love him*.

This Syllogism may be of two sorts, because from the same Major we may form two Conclusions.

The first is, when having affirmed the Consequent in the Major, we affirm the Antecedent in the Minor, according



according to this Rule: In admitting the Antecedent, we admit the Consequent.

If Matter cannot move of it self, its first Motion must have been given it by God:

But Matter cannot move of it self;

Therefore its first Motion must have been given it by God.

The second sort is, when we take away the Consequent to take away the Antecedent, according to this Rule: In taking away the Consequent we take away the Antecedent.

If any of the Elect perish, God is deceived:

But God is not deceived;

Therefore none of the Elect perish.

This is an Argument of St. Austin's: *Horum si quisquam perit, fallitur Deus; sed nemo eorum perit, quia non fallitur Deus.*

Conditional Arguments are vicious in two Manners. The one is, when the Major is an unreasonable Condition, and whose Consequence is contrary to the Rules; as if I concluded the general from the particular, saying: If we are deceived in any one thing, we are deceived in all.

But this Falseness in the Major of these Syllogisms regards the Matter more than the Form. Thus they are considered as vicious in point of Form only when an ill Conclusion is drawn from the Major, be that true or false, reasonable or unreasonable: Which is done in two Manners.

The first, when the Antecedent is inferred from the Consequent, as if we said:

If the Chinese are Mahometans, they are Infidels:

Now they are Infidels;

Therefore they are Mahometans.

The second sort of conditional Arguments, that are false, is, when from the Negation of the Antecedent we infer the Negation of the Consequent, as in the same Example.

Ifth  
Now  
Then  
Ther  
Ther  
gument  
indeed  
clusion  
Examp  
those th  
sed of h  
him, ju  
proach  
own La  
que recte  
alius lege  
esse defen  
impediat  
Blasph  
I denied  
But tho'  
Therefore  
would b  
Crimes  
But wha  
ted it as  
cludes in  
ought to  
It wou  
with  
Mu  
doin  
But I  
And co  
The f  
in Virgil,  
Si f  
Itali  
Juve



*If the Chinese are Mahometans, they are Infidels :*

*Now they are not Mahometans :*

*Therefore they are not Infidels.*

There are however some of these conditional Arguments which seem guilty of this second Fault, when indeed they are very good ; because there is an Exclusion understood in the Major, tho' not expressed. Example : *Cicero* having published a Law against those that should buy Votes, and *Murena* being accused of having bought them ; *Cicero*, who pleaded for him, justifies himself by this Argument from the Reproach *Cato* cast upon him of acting herein against his own Law : *Etenim si largitionem factam esse confiterer, idque recte factum esse defenderem, facerem improbe, etiamsi alius legem tulisset ; cum vero nihil commissum contra legem esse defendam, quid est quod meam defensionem latio legis impediatur ?* This Argument seems to be like that of a Blasphemer, who should say in his own defence : *If I denied that there is a God, I should be a wicked Wretch : But tho' I blaspheme, yet I do not deny that there is a God ; Therefore I am not a wicked Wretch.* Such an Argument would be good for nothing, because there are other Crimes besides Atheism that make a Man wicked : But what makes that of *Cicero* good, tho' *Ramus* quoted it as an Instance of false Reasoning is, that it includes in the Sense an exclusive Particle, and that it ought to be reduced into these Terms :

*It would be then only that I might justly be reproached with acting against my own Law, if I confessed that Murena had bought Votes, and yet defended his so doing :*

*But I affirm that he did not buy Votes ;*

*And consequently I do nothing contrary to my own Law.*

The same may be said of this Reasoning of *Venus* in *Virgil*, speaking to *Jupiter*.

*Si sine pace tua, atque invito numine, Troes Italiam petiere, luant peccata, neque illos Juveris auxilio : sin tot responsa secuti,*

*Que*

*Quæ superi manesque dabant : cur nunc tua quisquam  
Flectere jussa potest, aut cur nova condere fata ?*

For this Argument may be reduced to these Terms:

*If the Trojans came to Italy contrary to the Will of the  
Gods, they would be punishable :*

*But they did not come contrary to the Will of the Gods ;  
Therefore they are not punishable.*

Something therefore is to be supplied here ; otherwise it would be like the following, which certainly is not conclusive.

*If Judas enter'd into the Apostleship without Vocation, he  
ought to have been rejected by God :*

*But he did not enter without Vocation ;  
Therefore he ought not to have been rejected by God.*

But the Reason why that of *Venus* in *Virgil* is not vicious, is, that we are to consider the Major as being exclusive in the Sense ; as if she had said :

*Only then the Trojans would have been punishable, and  
unworthy the Assistance of the Gods, if they had come  
into Italy contrary to their Will :*

*But they did not come contrary to their Will :  
Therefore, &c.*

Or else we must say, which is the same thing, that the affirmative, *si sine pace tua, &c.* does in the Sense include this negative.

*If the Trojans came into Italy only by the Order of the  
Gods, it is not just in the Gods to deter them :*

*Now they came only by the Order of the Gods ;  
Therefore, &c.*

### *Of disjunctive Syllogisms.*

Disjunctive Syllogisms we call those, whose first Proposition is disjunctive, that is to say, whose Parts are joined by *vel*, or *either*, as this of *Cicero* :

*Those that slew Cæsar are either Parricides, or Defenders  
of Liberty :*

*Now they are not Parricides ;  
Therefore they are Defenders of Liberty.*

There

There  
Part is ta  
just now  
All wi  
or t  
Now th  
Wor  
Therefo  
There  
Syllogism  
as in this  
Lying, cap  
est eis quos  
credendum  
iosum est ;  
nantur bon  
The se  
the Parts  
if we said  
St. Bern  
by M  
Saint  
Now he  
Therefore  
These c  
brough t  
ision is r  
pposite M  
Either u  
trary  
them  
Now we  
Law c  
Therefore  
Or, Now  
Therefore  
Law c

There are two sorts of them : The first, when one Part is taken away to keep the other ; as in that we just now cited ; or in this :

*All wicked Men ought to be punished either in this World, or the next :*

*Now there are wicked Men that are not punished in this World :*

*Therefore they will be punished in the next.*

There are sometimes three Members in this sort of Syllogisms, and then two are taken away to keep one; as in this Argument of St. Austin, in his Book against Lying, cap 8. *Aut non est credendum bonis, aut credendum est eis quos credimus debere aliquando mentiri, aut non est credendum bonos aliquando mentiri. Horum primum perniciosum est ; secundum stultum : Restat ergo ut nunquam mentiantur boni.*

The second, but less natural sort, is, when one of the Parts is taken away, to take away the other ; as if we said :

*St. Bernard bearing Testimony that God had confirm'd by Miracles his preaching up the Crusade, was either a Saint or an Impostor :*

*Now he was a Saint ;*

*Therefore he was not an Impostor.*

These disjunctive Syllogisms are seldom false but through the Falseness of the Major, wherein the Division is not exact, leaving a Medium between the opposite Members ; as if I said :

*Either we must obey Princes in what they command, contrary to the Law of God, or we must rise up against them :*

*Now we must not obey them in what is contrary to the Law of God ;*

*Therefore we must rise up against them.*

*Or, Now we must not rise up against them ;*

*Therefore we must obey them in what is contrary to the Law of God.*

Both Arguments are false, because in this Disjunction there is a Medium, which was observ'd by the Primitive Christians, which is to suffer all things patiently rather than to do any thing contrary to the Law of God, and yet without rising up against the Princes that imposed Hardships upon them.

These false Disjunctions are none of the most common Sources of the false Reasonings of Men.

*Of copulative Syllogisms.*

These Syllogisms are of one sort only, which is when we take a copulative denying Proposition, whereof we afterwards establish one Part to reject the other.

*A Man cannot be at the same time the Servant of God, and a Slave to his Money:*

*Now a covetous Man is a Slave to his Money;*

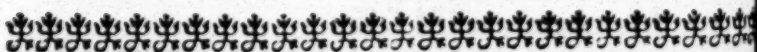
*Therefore he is not the Servant of God.*

For this kind of Syllogism does not necessarily conclude, when we take away one Part to establish the other, as may be seen by this Argument drawn from the same Proposition:

*A Man cannot be at the same time the Servant of God, and a Slave to his Money:*

*Now Prodigals are not Slaves to Money;*

*Therefore they are Servants of God.*



## CHAP. XIII

*Of Syllogisms whose Conclusion is conditional.*

WE have shewn, that a perfect Syllogism cannot have less than three Propositions: But this is true only when we conclude absolutely, and not when we do it only conditionally; because then the

singl

single con  
premisses

If I wo  
dy, and n  
cannot co  
positions

Every E  
Now th

Therefor

But I h  
clude it c

Every E  
Therefor

an uneven

Nay, I  
Propositio

If every  
even,

must b  
ven B

Or by t  
Article, b

If every  
Life f

There are

Since the

This w

beautiful;

there is no

ons separa

For it it is

Every tr  
For hi  
Now then  
Life fo

single conditional Proposition may include one of the premisses besides the Conclusion, and even both.

EXAMPLE,

If I would prove that the Moon is an uneven Body, and not smooth like Glass, as *Aristotle* imagined, I cannot conclude it absolutely in less than three Propositions :

*Every Body that reflects Light from all Parts is uneven.*

*Now the Moon reflects Light from all Parts ;*

*Therefore the Moon is an uneven Body.*

But I have need only of two Propositions to conclude it conditionally after this manner :

*Every Body that reflects Light from all Parts is uneven :*

*Therefore if the Moon reflects Light from all Parts, it is an uneven Body.*

Nay, I may include this Argument in one single Proposition, thus :

*If every Body that reflects Light from all Parts is uneven, and if the Moon reflects Light from all Parts, it must be confessed that it is not a smooth, but an uneven Body.*

Or by tying one of the Propositions by the causal Particle, *because*, or *since* : As,

*If every true Friend ought to be ready to lay down his Life for his Friend.*

*There are but few true Friends :*

*Since there are few that are Friends to such a degree.*

This way of arguing is very common and very beautiful ; and therefore we are not to imagine, that there is no Argument, unless we see three Propositions separate, and ranged as they are in the School : For it is certain that that single Proposition comprehends this entire Syllogism.

*Every true Friend ought to be ready to lay down his Life For his Friends.*

*Now there are but few that are ready to lay down their Life for their Friends ;*

*Therefore*



*Therefore there are but few true Friends.*

All the difference that there is between absolute Syllogisms and those whose Conclusion is included with one of the Premisses in a conditional Proposition, is, that the first cannot be granted entire, unless we are agreed of what they try to perswade us; whereas in the latter we may grant all, and yet the Propounder shall have got no Advantages; because he is still to prove, that the Condition whereon the Consequence granted to him depends, it true.

And thus these Arguments are, properly speaking no more than Preparations to an absolute Conclusion; but then they are very proper to that end, and it must be confessed, that these ways of Reasoning are very usual and very natural, and that they have this Advantage, that being more remote from the Air of the School, they are the better received in the World.

We may conclude after this manner in all the Figures, and in all the Modes; and therefore there are no other Rules to be observed in so doing, than the Rules of the Figures themselves.

We are only to observe that the conditional Conclusion always including one of the Premisses besides the Conclusion, it is sometimes the Major, and sometimes the Minor.

This will better appear by the Examples of several conditional Conclusions, which may be drawn from two general Maxims, the one affirmative, and the other negative; whether the affirmative be already proved or whether it be granted.

*Every Sensation of Pain is a Thought.*

From whence we affirmatively conclude,

1. *Therefore if all Beasts feel Pain, all Beasts think.*  
Barbara.
2. *Therefore if some Plant feels Pain, some Plant thinks.*  
Darrii.

3. *Therefore*

3. *Therefore*  
Every  
bara,

4. *Therefore*  
Some T

5. *Therefore*  
is bur  
There is f  
famis.

6. *Therefore*  
No S

7. *Therefore*  
No Bea

8. *Therefore*  
Some I

9. *Therefore*  
No Sen

10. *Therefore*  
Some T

11. *Therefore*  
Some T

We might  
ns from t

a Thought  
ey do not

Of those  
at-includ

mely, the

2, 3, 4, 5,  
We may i

nal Concl  
gative Pr

1. *Therefore*  
No Sou

3. Therefore if every Thought is an Act of the Mind,  
Every Sensation of Pain is an Act of the Mind. Bar-  
bara,
4. Therefore if every Sensation of Pain is an Evil,  
Some Thought is an Evil. Darapti.
5. Therefore if the Sensation of Pain is in the Hand which  
is burnt.  
There is some Thought in the Hand which is burnt. Di-  
samis.

Negatively.

6. Therefore if no Thought is in the Body,  
No Sensation of Pain is in the Body. Celarent.
7. Therefore if no Beast thinks,  
No Beast has Sensation of Pain. Camestres.
8. Therefore if some Part of Man does not think,  
Some Part of Man has no Sensation of Pain. Baroco.
9. Therefore if no Motion of Matter is a Thought,  
No Sensation of Pain is a Motion of Matter. Cesare.
10. Therefore if no Sensation of Pain is agreeable,  
Some Thought is not agreeable. Felapton.
11. Therefore if some Sensation of Pain is not voluntary,  
Some Thought is not voluntary. Bocardo.

We might draw some further conditional Conclu-  
sions from this general Maxim, Every Sensation of Pain  
is a Thought ; but as they would not be very natural,  
they do not deserve a Place here.

Of those which we have drawn, there are some  
that include the Minor besides the Conclusion ;  
namely, the 1, 2, 7, 8 ; and others the Major, viz.  
3, 4, 5, 6, 9, 10, & 11.

We may in like manner observe the several condi-  
tional Conclusions that may be drawn from a general  
negative Proposition. As for example, from this :

*No Matter thinks.*

1. Therefore if every Soul of a Beast is Matter,  
No Soul of a Beast thinks. Celarent.

2. Therefore

2. *Therefore if some Part of Man is Matter,  
Some Part of Man does not think.* Ferio.
3. *Therefore if our Soul thinks,  
Our Soul is not Matter.* Cesare.
4. *Therefore if some Part of Man thinks,  
Some part of Man is not Matter.* Festino.
5. *Therefore if every thing that is sensible of pain think  
No Matter is sensible of pain.* Camellres.
6. *Therefore if all Matter is a Substance,  
Some Substance does not think.* Felapton.
7. *Therefore if some Matter is Cause of several Effects  
that seem exceeding wonderful,  
Every thing that is Cause of miraculous Effects does  
think.* Ferison.

Of these Conditionals only the fifth includes a Major besides the Conclusion; all the rest include a Minor.

The greatest Use of this sort of Arguments is to oblige the Person, to whom we would prove a thing, to acknowledge first the Goodness of a Consequent which he may grant without engaging himself any further yet, because it is proposed to him only conditionally, and separated from the material Truth which we may so say, of what it contains.

And by this we prepare him to receive more easily the absolute Conclusion which we draw from it; either by putting the Antecedent to put the Consequent, or by taking away the Consequent to take away the Antecedent.

Thus a Person having confessed to me, that no Beast thinks, I will conclude therefrom; therefore the Soul of Beasts think, they must be distinct from Matter.

And as he will not be able to deny me this conditional Conclusion, I may draw therefrom either of the two absolute Consequences.

*Now the Soul of Beasts does think;*

*Therefore it is distinct from the Matter.*

Or, on the contrary:

*Now the Soul of Beasts is not distinct from Matter ;  
Therefore it does not think.*

By this it appears, that there must be 4 Propositions to finish this sort of Arguments, and to enable them to establish something absolutely ; and yet they ought not to be put in the Rank of those Syllogisms that are called compounded, because these 4 Propositions contain nothing more in Sense than these three propositions of a common Syllogism.

*No Matter thinks :*

*Every Soul of a Beast is Matter ;*

*Therefore no Soul of a Beast does think.*

## CHAP. XIV.

*Of Enthymemes, and of Enthymematic Sentences.*

WE have already said, that an Enthymeme is a Syllogism perfect in the Mind, but imperfect in Expression ; because some one of the Propositions suppressed in it, as being too clear and too well known, as being easily supplied by the Mind of those whom we speak. This way of arguing is so common in Books and Conversation, that it is even extraordinary to express all the Propositions, because one of them is generally clear enough to be supposed ; and the Nature of the Mind of Man is to love rather to have something left him to supply, than to have it imagined that there is a Necessity to inform him of every thing.

Thus such a suppression tickles the Vanity of those whom we speak, by referring our selves, as to some things, to their Capacities ; and by shortening the discourse, it makes it more nervous and more lively. It is certain that if, for instance, of this Verse of Ovid's *idea*, which contains a very elegant Enthymeme.

*Servare*

*Servare potui, perdere an possim rogas?*

*I was able to save you, do you think then I was not able to destroy you?*

the Poet had made a formal Argument after this manner: *He that can save can destroy: Now I was able to save you; therefore I was able to destroy you;* all the Beauty of it had been lost: And the Reason is, that as one of the chief Beauties of a Discourse is to be full of Sense, and to give occasion to the Mind to form a more extensive Thought than is contained in the Expressions; so it is, on the contrary, one of its greatest Faults to be empty of Sense, and to contain but few Thoughts, which is almost unavoidable in Philosophical Syllogisms. For the Mind outstripping the Tongue, and one of the Propositions being sufficient to make two be conceived; the Expression of the second becomes useless, not containing any new Sense. This is what makes such Arguments so unusual in common Discourse, because, even without so much as reflecting upon it, we avoid what is tedious, and stick to what is absolutely necessary for the making our selves understood.

Enthymemes then are the usual Manner in which Men express their Arguments, suppressing the Proposition which they think may easily be supplied; and this Proposition is at one time the Major, at another the Minor, and sometimes the Conclusion; tho' therefore this is not properly called Enthymeme, the whole Argument being in a manner contained in the two first Propositions.

It also sometimes happens, that we include the two Propositions of the Enthymeme in one single Proposition, which Aristotle therefore calls the Enthymematic Sentence, and of which he cites this Instance

*Αθάνατον ὄντων μὴ φύλαττε θυτὸς ὄν.*

*O mortal Man, do not bear immortal Anger.*



The entire Argument would be: *He that is mortal ought not to preserve an immortal Anger. Now you are mortal; therefore, &c. And the perfect Enthymeme would be, You are mortal; let not your Hatred therefore be immortal.*

## CHAP. XV.

*Of Syllogisms compounded of more than three Propositions.*

WE have already said, that Syllogisms compounded of more than three Propositions, are called generally *Sorites*.

We may distinguish three sorts of them. 1. The Gradations, of which it is not necessary to say any thing more than what we have already said of them in the first Chapter of this third Part.

2. The Dilemma's, of which we shall treat in the following Chapter.

3. Those which the *Greeks* called *Epicheremmes*, which contain the Proof either of some one of the two first Propositions, or of both. And of those we shall speak in this Chapter.

As we are often obliged in Discourse to suppress certain Propositions that are too evident; it also is often necessary, when we advance doubtful ones, to join Proofs to them at the same time, to prevent the Impatience of those to whom we speak, who are sometimes shock'd, when we go about to persuade them by Reasons which they think false or doubtful: For tho' a Remedy be added in the end, yet it is dangerous to raise this Disgust in their Minds for ever so short a time; and therefore it is much better for the Proofs to follow these doubtful Propositions immediately, than to have them brought in separate.

O

such

Such a Separation does also produce another very troublesome Inconvenience, which is, that we are obliged to repeat the Proposition which we intend to prove. Thus whereas the Method of the Schools is to propose the Argument by it self, and afterwards to prove that proposition which is liable to dispute; that which is followed in common Discourse is to join to the doubtful Proposition the Proofs that must establish it. Which makes a kind of Argument consisting of several Propositions; for to the Major we join the Proofs of the Major, to the Minor the Proofs of the Minor, and then we conclude.

Thus we may reduce the whole Oration for *Milo* to a compounded Argument, whose Major is, that it is lawful to kill him who lies in wait to kill us. The Proofs of this Major are drawn from the Law of Nature, the Law of Nations, and from Examples. The Minor is, that *Clodius* did lie in wait to kill *Milo*; and the Proofs of the Minor are the Preparations of *Clodius*, his Train, &c. The Conclusion is, that therefore it was lawful for *Milo* to kill him.

Original Sin might be proved by the Miseries of Children according to the dialectic Method, after this manner.

Children cannot be miserable but by way of Punishment for some Sin which they contract from their Birth: Now they are miserable; therefore it is upon account of original Sin. Afterwards we should prove the Major and the Minor; the Major by this disjunctive Argument: The Misery of Children cannot proceed but from one of these four Causes: 1. From preceding Sins committed in another Life. 2. From the Inability from God, who had not Power to protect them there from. 3. From the Injustice of God, who inflicts it upon them without a Cause. 4. From Original Sin. Now it is impious to say, that it proceeds from the three first Causes; it can therefore proceed only from the fourth, which is Original Sin.

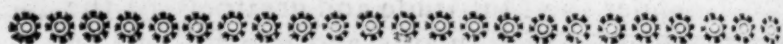
The

The Minor, that *Children are miserable*, would be proved by numbering up their Miseries.

But it is easy to see with how much greater Strength and Beauty St. *Austin* has proposed this Proof of Original Sin, by including it in an Argument compounded in this manner.

“ Consider the Multitude and greatness of the Evils which oppress Infants, and how full of Vanity, of Sufferings, of Illusions, of Frights, are the first Years of their Life : Afterwards, when they are grown up, and even begin to serve God, Error tempts them in order to seduce them, Labour and Pain tempts them to weaken them, Lust tempts them to inflame them, Sorrow tempts them to cast them down, Pride tempts them to lift them up : And who can represent in a few words the many various Miseries, which add to the Weight of the Yoke of the Children of *Adam* ? The Evidence of these Miseries forced the Pagan Philosophers, who neither believed nor knew any thing of the Sin of our first Parent, to say, that we were born only to suffer the Punishments we had deserved for Crimes committed in a Life before this ; and that thus our Souls had been tied to corruptible Bodies by the same kind of Torment that some *Tuscan* Tyrants inflicted upon those whom living fasten’d to dead Corpses. But this Opinion, that Souls are joined to Bodies by way of Punishment for the preceding Faults of another Life, is rejected by the Apostle. What then remains, but that the Cause of these dreadful Evils must be either the Injustice or Inability of God, or the Punishment of the Original Sin of Man ? But because God is neither unjust nor limited in his Power, nothing further remains but that which you are unwilling to acknowledge, but which nevertheless you must be forced to own, that this heavy Yoke, which the Children of *Adam* are forced to bear, from the Time that their Bodies are

“ taken from their Mother’s Womb, to the Day that  
 “ they return into the Womb of their common Mo-  
 “ ther, which is the Earth, wou’d not have been laid  
 “ upon them, if they had not deserved it by the Guilt  
 “ they contract from their Origin.



## C H A P. XVI.

*Of Dilemma’s*

**A** Dilemma may be defined to be a compounded Reasoning, wherein after having divided a whole into its Parts, we conclude affirmatively or negatively of the whole what we had before concluded of each Part.

I say, *what we had before concluded of each Part*, and not that only which we had affirmed thereof. For it is not properly called Dilemma, but when what we say of each Part is supported by its particular Reason.

For Example; being to prove, *that we cannot be happy in this World*, it may be done by this Dilemma.

*We cannot live in this World without either giving our selves up to our Passions, or combating them :*

*If we give our selves up to them, it is an unhappy Condition, because it is shameful so to do, and we can never be contented in it.*

*If we combat them, that also it is an unhappy Condition, because nothing is more painful than this inward War, which we are continually obliged to carry on against our selves.*

*There cannot therefore be in this Life any true Happiness.*

If we would prove, *that such Bishops as do not labour for the Salvation of the Souls committed to their charge, are inexcusable in the sight of God*, we may do it by a Dilemma.



*Either they are fit for this Charge, or they are unfit for it. If they are fit for it, they are inexcusable for not labouring in it.*

*If they are unfit for it, they are inexcusable for having accepted of so important a Charge, without being able to acquit themselves of it.*

*And consequently, let which will be true, they are inexcusable in the sight of God, if they do not labour for the Salvation of the Souls committed to their charge.*

But some Observations may be made upon this kind of Arguments.

The first is, that we do not always express all the Propositions that are in them. For (for instance) the Dilemma last cited is included in these few Words in a Speech of St. Charles, at his entrance into one of his Provincial Councils: *Si tanto muneri impares, cur tam ambitiosi? si pares, cur tam negligentes?*

Thus there are many things understood in that famous Dilemma, whereby an antient Philosopher proved that we ought not to concern our selves in the Affairs of the Republic.

*If we act well, we shall offend Men; if ill we shall offend the Gods: Therefore we ought not to meddle with them at all.*

And again, in that whereby another proved, that it was the best way not to marry: *If the Wife you take be handsome, she will be the Cause of Jealousy; if ugly, she will give distaste: Therefore it is better not to marry.*

For in both of these Dilemma's the Proposition that should contain the Partition is understood; and this is what is very common, because it is understood very easily, being sufficiently shewn by the particular Propositions wherein each Part is discussed.

And moreover, to the intent that the Conclusion may be included in the Premisses, we must throughout understand something of general that may agree with the whole; as in the first.



*If we act ill, we shall offend Men: which occasions Uneasiness:*

*If we act ill, we shall offend the Gods; which also occasions Uneasiness:*

*Therefore it occasions Uneasiness every way to meddle with the Affairs of the Republic.*

This Observation is of great use to the right judging of the Strength of a Dilemma. For what makes this last, for example, not conclusive, is, that one cannot be uneasy at offending Men, when we cannot avoid it but by offending God.

The second Observation is, that a Dilemma may be vicious chiefly in two respects. The one is when the Disjunctive whereon it is built is defective, in not taking in all the Members of the whole that we divide.

Thus the Dilemma against Marriage is not conclusive, because there may be Women not so handsome as to give cause for jealousy, nor so ugly as to give disgust.

It is for the same Reason a very false Dilemma, which the antient Philosophers produced against the Fear of Death. *Either our Soul, said they, perishes with the Body, and so having no Sensation, we shall be incapable of Misery; or if the Soul survives the Body, it will be more happy than it was in the Body; therefore Death is not to be feared.* For as Montaigne very well observed, it was a great Blindness not to see, that a third State may be conceived between those two, which is, that the Soul subsisting after the Body, may find it self in a State of Misery and Torment, which gives just Cause to be apprehensive of Death, for fear of falling into this State.

The other Fault, that makes these Dilemma's unconclusive, is, when the particular Conclusions of each Part are not necessary. Thus it is not necessary, that a handsome Woman should be the Cause of Jealousy, since she may be so prudent and so virtuous, as not to give the least Room for distrusting her Charity.

Neither

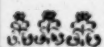
Neit  
give di  
many o  
of Virtu

The  
of a Di  
being t  
that th  
prove th  
fairs, w

If you  
wil

If you  
There

Yet t  
advanta



Of Place

W H  
Pl  
Heads,  
are mad  
And tha  
nothing

Ramus  
Philosop  
laid dow  
against t  
the Place  
proceede  
Ramus  
the Matt

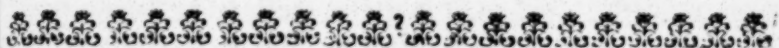
Neither is it necessary that an ugly Woman should give disgust to her Husband, since she may have so many other advantageous Qualities both of Mind and of Virtue, as to be agreeable to him.

The third Observation is, that he who makes use of a Dilemma must take care that it is not capable of being turned upon himself. Thus *Aristotle* writes, that the very Dilemma used by the Philosopher, to prove that it is better not to meddle in publick Affairs, was returned upon him; for he was answered:

*If you govern according to the corrupt Rules of Men, you will please Men;*

*If you keep up to strict Justice, you will please the Gods: Therefore you ought to concern your self with them.*

Yet this Return was not reasonable: For it is not advantageous to please Men by offending God.



## CHAP. XVII.

*Of Places, or of the Method of finding Arguments: how little useful this Method is.*

**WHAT** the Rhetoricians and Logicians call Places, *loci argumentorum*, are certain general Heads, to which may be referred all the Proofs that are made Use of in the various Matters of Discourse: And that Part of Logic which they call *Invention*, is nothing else but what they teach of these Places.

*Ramus* is very angry with *Aristotle* and the School Philosophers, because they treat of Places after having laid down the Rules of Argument; and he maintains against them, that they should first have explained the Places, and what relates to Invention, before they proceeded to those Rules.

*Ramus's* Reason is, that we should be provided of the Matter before we think of the Manner we shall

dispose it in. Now the Explication of the Places teaches to find this Matter, whereas the Rules of Arguments can teach only what the Disposition of it is.

But this Reason is very weak ; because tho' it be necessary that the Matter be found e'er we go about to dispose it, yet it is not necessary to learn to find Matter before we have learn'd to dispose it. For in Order to learn to dispose the Matter, it is sufficient to have certain general Matters to serve for Examples : now Wit and common Sense always provides well enough for that, without needing to borrow from any Art, or from any Method. It is therefore true, that we must have Matter, before we can apply the Rules of Arguments to it ; but it is false, that it is necessary to find this Matter by the Method of Places,

On the contrary it might be said, that as they pretend to teach by the Places the Art of finding Arguments and Syllogisms, it is first necessary to know what an Argument and Syllogism is. But perhaps it might also be answered, that Nature of herself furnishes us with a general knowledge of what an Argument is sufficient to understand what is said of it in speaking of Places.

It is therefore a jest to be anixious about the Order wherein the Places ought to be treated of ; since it seems to be a thing totally indifferent. But perhaps it would be more useful to examine, whether it would not be better not to treat of them at all.

We know that the Ancients made a great Mystery of this Method, and that Cicero even prefers it to all the Dialectics as they were taught by the Stoics, because they did not treat of Places, Let us leave, says he, all that Science which tells us nothing at all of the Art of finding out Arguments, and which is but too tedious in teaching us how to judge of them. *Istam artem totam relinquamus quæ in excogitandis argumentis, muta nimium est, in judicandis nimium loquax.* Quintilian, and all the rest of the Rhetoricians ; Aristotle

and

and all the Philosophers speak of it in the same manner; so that one hardly knows how to dissent from their Opinion, if general Experience were not directly against it.

We might produce almost as many Witnesses as there are Persons that have passed thro' the usual course of Studies, and who have learnt of this Artificial Method of finding out Proofs all that is taught in the Schools. For is there so much as one of them that can say in his Conscience, that whenever he was obliged to treat of any Subject, he had any Recourse to those Places, in Order to find the Reasons that were necessary to prove his Point? Enquire of all the Preachers and Counsellors in the World, of all the Multitude that talk and write, and that always have Matter to spare; and I doubt whether so much as one will be found, that ever thought of drawing an Argument, *a causa, ab effectu, ab adjunctis*, to prove what he designed to demonstrate.

And tho' Quintilian shews an esteem for this Art, yet he cannot help confessing that we are not, when we handle any Subject, to run to nock at the Door of all these Places to fetch Arguments and Proofs. *Il-lud quoque, says he, studiosi eloquentiæ cogitant, non esse cum proposita fuerit materia dicendi scrutanda singula & velut ostiatim pulsanda, ut sciant an id probandum quod intendimus, forte respondeant.*

'Tis true, all the Arguments we can bring upon any Subject may be referr'd to those Heads, and to those general Terms, which they call Places; but it is not by their means that they are found. The nature, the attentive Consideration of the Subject, the knowledge of divers Truths produces them, and afterwards Art refers them to certain kinds. So that we may with truth say of Places, what St. Austin says in general of the Rules of Eloquence are observed in the Discourses of eloquent Persons, tho' they do not think of them when they make such Discourses, nay perhaps



do not know them. They practise these Rules, because they are eloquent; but they do not make use of them in order to be eloquent. *Implent quippe illa quia sunt eloquentes, non adhibent ut sint eloquentes.*

We walk by Nature, as the same Father observes in another Passage, and in walking we make certain regular Motions of the Body. But it wou'd be of no use in order to learn to walk, to say, for instance, that we must send Spirits into certain Nerves, stir certain Muscles, make certain Motions in the Joints, set one Foot before the other, and rest upon one, while the other goes forwards. We may indeed form Rules by observing what Nature prompts us to do; but those Actions are never performed by means of such Rules. Thus we handle all the Places in the most common Discourse, and can say nothing but what must be agreeable to them; but we do not do so by reflecting formally upon those artificial Rules, which must only deaden the Fire of Wit, and hinder it from finding out the lively and natural Reasons, which are the true Ornaments of all sorts of Discourses.

*Virgil*, in the ninth Book of the *Æneid*, after having represented *Eurialus* surprized and surrounded by his Enemies, who were just ready to take Revenge upon him, for the Death of their Comrades, whom *Nisus* the Friend of *Eurialus* had slain, puts these moving passionate Words into the Mouth of *Nisus*.

*Me me adsum, qui feci, in me convertite ferrum,  
O Rutuli! mea fraus omnis; nihil iste nec ausus,  
Nec potuit. Coelum hoc & sidera conscia testor.  
Tantum infelicem nimium dilexit amicum.*

This, quoth *Ramus*, is an Argument *a causa efficien-*te; but one might safely swear, that when *Virgil* wrote these Verses, he never dreamed of the Place of the efficient Cause. He had never made them, if he had staid to seek the Thought in that manner: And to produce such noble and such bold Verses, he must not only

only  
but n  
the P  
An  
this M  
been  
dent  
Men  
gence  
ffible  
by to  
can be  
every  
Thoug  
Now t  
being  
Judgm  
Not  
dance  
in just  
tility o  
this fac  
the nat  
ver app  
the Sub  
Peopl  
for by  
tage:  
is much  
than in  
too mu  
Men in  
much b  
that is t  
common  
do, a co  
which th



only have forgot those Rules, if he knew them at all, but must in a manner have forgot himself, to put on the Passion which he represented.

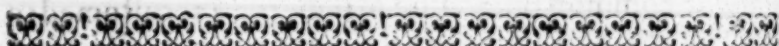
And indeed the little use the World has made of this Method of Places for so many Ages, that it has been found out, and taught in the Schools, is an evident Proof that it is not very useful. But even tho' Men had applied themselves with the utmost diligence to reap all the Fruit from them that it were possible to do, we do not see how they cou'd arise thereby to any thing truly useful and valuable. For all that can be pretended to by this Method, is to find out in every Subject divers general, common and remote Thoughts, as the *Lullists* do by means of their Tables. Now to procure this kind of abundance, is so far from being useful, that nothing is more prejudicial to the Judgment.

Nothing choaks up good Seeds more than the abundance of ill Herbs; nothing makes a Wit more barren in just and solid Thoughts, than this pernicious Fertility of common ones. The Mind grows accustomed to this facility, and therefore does not exert it self to find the natural, particular and proper Reasons, which never appear, but from the attentive Consideration of the Subject.

People ought to consider, that the abundance sought for by means of these Places, is a very small advantage: This is not what is most usually wanting. It is much more common to be in the extream of excess, than in that of scarcity; and Discourses are generally too much crowded with Matter. Therefore to form Men in a judicious and solid Eloquence, it would be much better to teach them to be silent than to speak, that is to say, to suppress and cut away their mean, common and false Thoughts, than to produce, as they do, a confused Heap of good and ill Arguments, with which they fill their Books and Discourses.

And as the use of Places can be but very little serviceable in finding out such Thoughts, we may safely say, that if it may be worth while to know what is said of them, because so many great Men have spoke of them, that they have made a sort of a necessity not to be ignorant of so common a Thing; it is of much more importance to be firmly persuaded, tho' nothing can be more ridiculous than to make use of them in order to discourse of every thing blindly, as the *Lulists* do by means of their general Attributes, which are a sort of Places; and that this silly Capacity of speaking to every Point, and of finding a Reason for any Matter, of which some People are so very vain, is such a poor Character of Wit, as is even far beneath direct Folly.

Wherefore all the Advantage to be drawn from these Topicks, is at most to have a general Tincture of them, that may perhaps help us a little to view the Matter we handle by more Parts and Faces, without our having any express recourse to them.



## C H A P. XVIII.

*Division of Topics into those of Grammar, of Logic, and of Metaphysics.*

THOSE who have treated of Topics, have divided them in different manners. That which was followed by *Cicero* in his Books of Invention, and in the twenty first Book of the Orator; and by *Quintilian* in the fifth Book of his Institutions, is less Methodical; but then it is more proper for the Bar, to whose use they particularly designed it; that of *Ramus* is too much perplexed with Subdivisions.

We

We have  
conven  
Philoso  
my Har  
ted.

Topi  
Logic,

Topic  
rived fr  
conjugat

We a  
ple, tha  
themsel  
self is t  
ver emp

Word  
us to fir

Homor

Morta

Quid

indignum

deserves

deserves

The

nus, Spe

on, Divi

plained

further

We m

to these

know, n

they are

them, u

cessary to

We have here made use of one which seems very convenient, of a very solid and very judicious *German* Philosopher named *Claubergius*, whose Logic, came to my Hands, after this was already begun to be printed.

Topics are drawn either from Grammar, or from Logic, or from Metaphysics.

### Topics of Grammar.

Topics of Grammar are Etymology, and Words derived from the same Root, which are called in Latin *conjugata*, and in Greek *παρρηγυα*.

We argue by Etymology, when we say, for Example, that many Persons in the World never divert themselves properly speaking, because to divert oneself is to rest from serious Occupations, and they never employ themselves seriously.

Words derived from the same Root, do also help us to find out Thoughts.

*Homo sum, humani nil a me alienum puto.*

*Mortali urgemur ab hoste, mortales.*

*Quid tam dignum misericordia quam miser? Quid tam indignum misericordia quam superbus miser?* What more deserves our Pity than a poor Man? And what less deserves our Pity than a poor Man that is proud?

### Topics of Logic.

The Topics of Logic are the universal Terms, Genus, Species, Difference, Proper, Accident, Definition, Division: And as all these Points have been explained before, it is not necessary to handle them further here.

We may only observe, that usually there are joined to these Topics certain Maxims, which it is good to know, not because they are very useful, but because they are common: We have already quoted some of them, under other Terms; but it may not be unnecessary to know them under the usual Terms.

1. That

1. That which is affirmed or denied of the Genus, is affirmed or denied of the Species. *That which agrees with all Men, agrees with Great Men: But they cannot pretend to the advantages, which are above Humanity.*

2. To destroy the Genus is also to destroy the Species. *He that does not judge at all, does not judge amiss; he that never speaks at all, does never speak indiscreetly.*

3. To destroy all the Species, is also to destroy the Genus. *The Forms that are called substantial Forms, (except the reasonable Soul) are neither Body nor Spirit; therefore they are not Substances.*

4. If we can affirm or deny of any thing the total Difference, we may affirm or deny its Species. *Extension does not agree with Thought; therefore it is not Matter.*

5. If we can affirm or deny of any thing the Propriety we may affirm or deny of it the Species. *It being impossible to figure to ourselves the half of a Thought, or a round or square Thought, it is impossible it should be a Body.*

6 We affirm or deny the thing defined, when we affirm or deny the Definition. *There are but few just Persons, because there are but few that have a firm and constant Will to restore to every Man, that which is his due.*

#### Topics of Metaphysics.

The Topics of Metaphysics are certain general Terms agreeing with all Beings, whereunto many Arguments are referred, as the Causes, the Effects, the Whole, the Parts, the opposite Terms. What is of most use in them is, to know some general Divisions of them, and principally of the Causes.

The Definitions given in the Schools to Causes in general; by saying, that a Cause is that which produces an Effect, or that by which a Thing is, are so slovenly; and it is so difficult to see how they suit with all the Genus of Cause, that they had even as good have left this Word among the number of those that they

do not clear as

But are the final Cause know it.

THE Thing is There principal looked u

That v led finis c sic, becau

The P Man is th him it is

Nothing from the as that a D

per to pe Man has d conformal

self; from man Judge

first, cui bo should ha

et upon I Man is not because it

There a and, whic and Prece

ther Top THE I produces a his, by sho

not a suffic do ng that al



do not define at all ; the Idea we have of it, being as clear as these Definitions.

But the Division of Causes into four sorts, which are the final, the efficient, the material, and the formal Causes, is so famous, that it is necessary to know it.

THE FINAL CAUSE is the End for which a Thing is.

There are *principal* Ends, which are those that are principally in View ; and *accessory* Ends, which are looked upon only by the Way.

That which we aim at doing or obtaining, is called *finis cuius gratia*. Thus, Health is the end of Physic, because it is its aim to procure it.

The Person for whom we labour, is called *finis cui* ; Man is the end of Physic in this manner, because to him it is that it's designed to bring Health.

Nothing is more common than to draw Arguments from the End, or to shew that a thing is imperfect ; as that a Discourse is ill compos'd, when it is not proper to persuasion ; or to shew that it is probable a Man has done, or will do some Action, because it is conformable to the End he is used to propose to himself ; from whence came that famous Saying of a Roman Judge, that it was always necessary to examine first, *cui bono*, that is to say, what Interest a Man should have in doing a thing, because Men generally act upon Interest ; or to shew on the contrary, that a Man is not to be suspected of having done an Action, because it appears to be contrary to his End.

There are several other Ways of arguing by the End, which good Sense will teach better than a thousand Precepts : Which also may be said of all the other Topics.

THE EFFICIENT CAUSE is, that which produces another Thing. Arguments are drawn from this, by shewing that an Effect is not, because it had not a sufficient Cause ; or that it is or will be, by shewing that all its Causes subsists. If these Causes are necessary,



cessary, the Argument is necessary ; if they are free and contingent, it is no more than probable.

There are divers Sorts of the efficient Cause, whose Names it may be of use to know.

God creating *Adam* was his *total* Cause ; because nothing concurred with him in doing it ; but the Father and Mother are each but partial Causes of their Child, because they stand in need of each other.

The Sun is a *proper* Cause of Light ; but he is only the *accidental* Cause of the Death of a Man whom his Heat should kill ; because the Man must be of a weak Constitution.

The Father is *next* Cause of the Son.

The Grand-father is but the *remote* Cause of him.

The Mother is a *productive* Cause.

The Nurse is only a *preserving* Cause.

The Father is a *univocal* Cause, with respect of his Children, because they are like him in Nature.

God is only an *equivocal* Cause, with respect of Creatures, because they are not of the Nature of God.

A Workman is the *principal* Cause of his Work ; his Instruments are only the *instrumental* Cause of it.

The Air that goes into an Organ is a *universal* Cause of the Harmony of the Organ.

The particular Disposition of each Pipe, and he that plays on them, are the *particular* Causes of it that determines the universal.

The Sun is a *natural* Cause.

Man, an *intellectual* Cause, with Relation to what he does with Judgment.

The Fire that burns the Wood is a *necessary* Cause.

A Man that walks is a *free* Cause.

The Sun illuminating a Room is the *proper* Cause of its Light ; the Aperture of the Windows is only a Thing, or Condition, without which the Effect would not be, *conditio sine qua non*.

The Fire burning a House is the *phisical* Cause of the Burning ; the Man that set it on Fire is the *moral* Cause.

To the efficient Cause is also referred the *exemplary* Cause, which is the Model that we propose to our selves when we make any Work : As the Model of a Building, by which an Architect raises his Structure, or generally that which is the Cause of the objective Being of our Idea, or of any other Image whatsoever; as *Louis XIV* is the exemplary Cause of his Picture.

THE MATERIAL CAUSE is that whereof Things are formed, as Gold is the Matter of a Golden Cup; that which does or does not agree with the Matter, does or does not agree with the Things made of it.

THE FORM is that which makes a Thing that Thing, and distinguishes it from others, whether it is a Being really distinct from Matter, according to the School Opinion, or whether it be only the Disposition of the Parts. It is by the Knowledge of this Form that we are to explain the Proprieties of it.

There are as many different Effects as there are Causes, those Words being reciprocal. The usual manner of fetching Arguments from them is to shew that if the Effect is, the Cause is, since nothing can be without a Cause. We also prove, that a Cause is good or bad, when its Effects are good or bad : Which is not always true of accidental Causes.

We have said enough of the whole, and of the Parts in the Chapter of Division ; and therefore it is not necessary to add any thing here concerning it.

They make four sorts of opposite Terms :

The Relatives ; as Father, Son ; Master, Servant.

The Contraries ; as cold, hot ; well and sick.

The Privative ; as Life, Death ; Sight, Blindness ; Hearing, Deafness ; Knowledge, Ignorance.

The Contradictories, which consist in a Term, and in the simple Negation of that Term, to see, not to see.

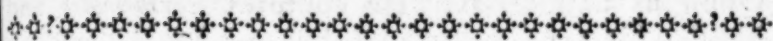
see. The difference between these two last sorts of Opposites, is, that the privative Terms include the Negation of a Form in a Subject capable of it; whereas the Negatives do not denote that Capacity. For which Reason we never say a Stone is blind or dead, because it is not capable either of Life or Sight.

As these Terms are opposite, we make use of one to deny the other. The contradictory Terms have this of proper, that in rejecting one we establish the other.

There are divers sorts of Comparisons: For we compare things either equal or unequal; or similiar or dissimiliar. We prove, that that which does or does not agree with an equal or similiar thing, does or does not agree with another thing to which it is equal or similiar.

In unequal things we prove negatively, that if that which is more probable is not, that which is less probable much more certainly is not: Or affirmatively, that if that which is less probable is, that which is more probable is also. We generally make use of the Differences or Dissimilitudes, to ruin what others would build upon Similitudes; as the Argument taken from a Decree is destroyed by shewing that it was given in another Case.

This, in gross, is a part of what is said upon Topicks. There are some things that it is more useful not know at all than to know them in this manner. Those that desire more may find it in the Authors that have handled this Subject with more care: Yet we cannot desire any one to go to look for it in *Aristotle's Topicks*, because they are Books writ with strange Confusion. But there is something very good upon this Matter in the first Book of his *Rhetorick*, wherein he teaches divers manners of shewing that a thing is useful, agreeable, greater, less. But it is certain none will ever arrive, by this way, at any Knowledge very solid.



## C H A P. XIX.

*Of the several manners of wrong Reasoning, which are called Sophisms.*

**T**H O' to one that knows the Rules of good Arguments it is not difficult to see through such as are bad, yet as Examples to be avoided, do often leave a stronger Impression upon the Mind than Examples to be imitated, it will not be unnecessary to represent the chief Springs of bad Reasonings, which are called *Sophisms* or *Paralogisms*; because this will enable us to avoid them with much more ease.

I shall reduce them but to seven or eight. There being some so gross as not to deserve notice.

## I.

*To prove another Point than that which is in dispute.*

This Sophism is called by *Aristotle Ignoratio elenchis*; that is to say, the Ignorance of what ought to be proved against an Adversary. This is a very common Vice in the Disputes between Men. They argue with Heat, and often do not so much as understand each other; Passion or Falseness makes them attribute to their Adversary Things quite remote from his Sentiments, that they may combat him with the greater advantage; or else they impute to him the Consequences which they imagine may be drawn from his doctrine, though he disowns and denies them. All this may be referred to this first kind of Sophism, which every sincere and honest Man ought to avoid above all things.

It were to be wish'd, that *Aristotle*, who has taken care to give us notice of this Fault, had taken as much care to avoid it. For, to be free, he has confuted several



veral of the ancient Philosophers only by citing their Opinions unsincerely. He confutes *Parmenides* and *Melissus*, for having admitted but one single Principle of all things, as if they had thereby understood the Principle of which they consist; whereas they meant the only and single Principle, whereto all things owe their Beginning which is God.

He accuses all the Ancients for not having owned Privation to be one of the Principles of natural things and calls them coarse and dull upon that Account. But who is there that does not perceive that what he represents to us a mighty Mystery, till then unknown could never be unknown to any Mortal? Since it is impossible nor to see that the Matter wherof we make a Table, must have the Privation of the Form of a Table; that is to say, must not be a Table before it is made a Table. It is true, those Ancients never took it in their Heads to apply this Knowledge to explain the Principles of natural things, because indeed nothing is less capable of doing it; it being very plain, that we do not know how a Clock is made the better for knowing that the Matter of which it is made, must needs have not been a Clock before it was made a Clock.

It is therefore unjust in *Aristotle* to deride the ancient Philosophers for being ignorant of a thing which it is impossible to be ignorant of; and for not having in the Explication of Nature made use of a Principle that can explain nothing at all; and it is an Illusion and a Sophism to bring into the World this Principle of Privation as an extraordinary Secret, since it is not what we are in quest of when we try to find out the Principles of Nature. We always take it for granted, that a thing was not before as it was made. But we want to know by what Principles it was made and what Cause produced it.

Neither did ever any Man hear of a Statuary (for Example) that in order to teach a Tyro the way how

to make  
struction  
us begin  
My Child  
in order  
Marble w  
tend to m

This is  
ging the  
be dire  
gments  
more clea  
proved.

Yet Gal  
himself fa  
prove by  
in the Cen

The Na  
the World,

Now ex  
Center of th

Therefor  
Center of th

It is vis  
argument a

We indeed  
the Earth,

to the Cen  
the Center

of the Wo  
would pro

Those A  
Question,

astical ki  
school, sub

oreal, th



to make a Statue, laid down to him, as his first Instruction, this Lesson, by which *Aristotle* would have us begin the Explication of all the Works of Nature. My Child, the first thing you ought to learn is, that in order to make a Statue you must chuse a Piece of Marble which is not already the Statue that you intend to make.

## II.

*To suppose for true the thing in dispute.*

This is what *Aristotle* calls *Petitio principii*, or begging the Question, which appears plainly enough to be directly contrary to true Reason; since in all Arguments that which serves as the Proof ought to be more clear and better known than the thing to be proved.

Yet *Galileo* accuses him, and with Justice, of having himself fallen into the same Fault, when he would prove by the following Argument, that the Earth is in the Center of the World.

*The Nature of heavy things is to tend to the Center of the World, and of light things to fly off from it.*

Now experience shows us that heavy things tend to the Center of the Earth, and the light things fly off from it;

Therefore the Center of the Earth is the same with the Center of the World.

It is visible, that there is in the Major of this Argument a manifest begging of the Question. For tho' we indeed see that heavy things tend to the Center of the Earth, yet where did *Aristotle* learn that they tend to the Center of the World, unless he supposes, that the Center of the Earth is the same with the Center of the World: Which is the very Conclusion that he would prove by this Argument.

Those Arguments too are mere beggings of the Question, that are made use of to prove a certain fantastical kind of Substances, which are called in the school, *substantial Forms*, which they pretend are corporeal, though not Bodies, which is no very easy thing

thing to comprehend. If there were no substantial Forms, say they, there would be no Generation: Now there is Generation in the World; therefore there are substantial Forms.

If we do but observe the equivoue of the Word Generation, we shall see that this Argument is nothing but a begging of the Question. For if by the Word Generation, they mean the natural Production of a new Whole in Nature, as the Production of a Hen that is formed in an Egg, they have reason to say that there are Generations in that Sense: But they cannot therefore conclude, that there are substantial Forms, since the bare disposing of the Parts by Nature may produce those new Wholes, and those new natural Beings. But if by the Word Generation they understand, as usually they do, the Production of a new Substance which was not before, namely, that substantial Form, they suppose the very thing that is controverted: It being evident, that whoever denies substantial Forms, cannot grant that Nature produces substantial Forms. And he must be so far from being convinced that there are such by this Argument, that he must rather draw from it a Conclusion directly contrary in this manner: If there were substantial Forms, Nature could produce Substances that were not before: Now nature cannot produce new Substances, since that would be a sort of Creation; and consequently there are no substantial Forms.

Here follows another of the same justness: If there were no substantial Forms, say they again, natural Beings would not be Wholes, which they call *per se totum per se*; but Beings by Accident: Now they are Wholes *per se*; therefore there are substantial Forms.

We must again desire the Gentlemen that make use of this Argument to please to explain what they understand by a whole *per se*, *totum per se*. For if they understand it, as they certainly do, a Being composed of Matter and of Form, it is plainly a begging the

Question

Question, since it is the very same thing as if they said : If there were no substantial Forms, the natural Beings would not be compos'd of Matter and of substantial Forms. Now they are compos'd of Matter and of substantial Forms. Therefore there are substantial Forms. If they mean any thing else, let them tell us, and we shall see that they prove nothing at all.

We have thus stopt a little by the way, to shew the Weakness of the Arguments whereon they establish in the School this kind of Substances, which are not discoverable either by the Senses or by the Mind, and of which we know no more than that they are called substantial Forms ; because those that defend them may do it with a very good design, yet the Foundations they build upon, and the Ideas they give of these Forms, do darken and confound some very solid and convincing proofs of the Immortality of the Soul, which are drawn from the Distinction between Bodies and Spirits, and from the Impossibility that there is, that a Substance which is no Matter should perish by the changes that happen in Matter. For by means of these substantial Forms they unwittingly furnish Sceptics with Examples of Substances that perish without being properly material, and to the effect of which they ascribe in Animals a vast number of Thoughts that is to say, Actions purely spiritual. For which reason it is of service to Religion and to the Conviction of Atheists and Unbelievers, to despoil them of this Reply, by proving that nothing ever was more weakly grounded than these perishable Forms, which they call substantial Forms.

To this kind of Sophism may also be referred the proofs drawn from Principles different from those in question ; but which are known to be no less contested by the Adversary. For instance, the following two Dogma's equally certain among the Catholics : The one, that all the Points of Faith cannot be proved by Scripture alone : The other, that it is a Point

Point of Faith, that Children are capable of Baptism. It would therefore be but a poor Argument in an Anabaptist, to prove against a Catholic, that they are in the wrong in thinking Children capable of Baptism, because we find nothing of it in Scripture; since this Proof would take it for granted, that nothing is to be believed as a Point of Faith, but what is to be found in Scripture: Which is denied by the Catholics.

Lastly, To this Sophism may be referred all the Arguments that prove one unknown thing by another as much or more unknown, or one uncertain thing by another as much or more uncertain.

## III.

*To take for the Cause that which is not the Cause.*

This Sophism is called, *non causa pro causa*.

It is very common among Men, and they are apt to fall into it in several Manners. One is by a real Ignorance of the true Causes of Things. Thus the Philosophers have ascribed a thousand Effects to the Fear of a *Vacuum*, which Effects have in this Age been proved demonstratively, and by very ingenious Experiments, to have been caused only by the Weight of the Air, as may be seen in the excellent Treatise of M. *Pascal* lately published. The same Philosophers usually teach, that Vessels full of Water do break in Frost, because the Water grows closer, and leaves a *Vacuum*, which nature cannot suffer. And yet it has since been found, that they break only because the Water being frozen, does on the contrary take up more room than before it was froze; which is also the Cause why Ice swims upon the Water.

We may impute it to the same Sophism, when remote Causes, and which prove nothing, are alledged to prove things either sufficiently clear of themselves or false, or at least doubtful. As when *Aristotle* would prove that the World is perfect by this Reason: *The World is perfect, because it contains Bodies; a Body is perfect*

because  
perfect  
three a  
when  
three.  
Atom  
Dimen  
from p  
contrar  
fect, an  
in its c

The  
simple  
Conseq  
perceive

He al  
and ince  
that the  
But, i  
tion ha  
Body.  
Motion  
ther circ  
The o  
is the fo  
acknowle  
rather ch  
the thing  
confess th  
manner in  
ignorance is  
whose Ca  
we have h  
a general  
the Mind  
Cause or  
in before  
no one, fo

becau



because it hath three Dimensions : The three Dimensions are perfect because three are all : (*quia tria sunt omnia*) And three are all, because we do not make use of the Word All when there is but one or two things, but only when there are three. By this Reason he might prove, that the least Atom is as perfect as the World, because it has three Dimensions as well as the World. But this is so far from proving the World to be perfect, that on the contrary every Body, *quasi* Body, is essentially imperfect, and the Perfection of the World consists chiefly in its containing Creatures that are not corporeal.

The same Philosophers proves, that there are three simple Motions, because *there are three Dimensions*. The Consequence from one to the other is not very easily perceived.

He also proves that the Heavens are unalterable and incorruptible, because they move circularly, and that there is nothing contrary to the circular Motion But, 1. We cannot find what the Controversy of Motion has to do with Corruption or Alteration of a Body. 2. We are less able to find why the circular Motion from East to West may not be contrary to another circular Motion from West to East.

The other Cause, that leads Men into this Sophism, is the foolish Vanity that makes us be ashamed to acknowledge our Ignorance. For hence it is, that we rather chuse to form to our selves imaginary Causes of the things which we are desired to account for, than to confess that we do not know their Causes ; and the manner in which we avoid this Confession of our Ignorance is humerous enough. When we see an Effect whose Cause is unknown to us, we presently imagine we have hit upon it, when we have joined to this Effect a general word of *Virtue* or of *Faculty*, which forms in the Mind no other Idea, but that this Effect has some Cause or other, which we might have rested satisfied in before we had thought of that Word. There is no one, for example, but what knows that his Arte-



ries beat; that Iron, being set near the Loadstone, jumps to it; that Sena purges, and Poppies lay to sleep. Those who do not make profession of Learning, and who are not ashamed of their Ignorance, can freely own, that indeed they see these Effects, but that they cannot tell the Cause of them; whereas a Man of Learning, who would blush to confess so much evades it in another manner, and pretends that he, for his part, has found out the true Cause of these Effects, which is, that there is in the Arteries a pulsifick Virtue; in the Loadstone, a Magnetic Virtue; in Sena, a purgative Virtue; and in Poppies, a soporifick Virtue. Very commodiously accounted for! and any *Chinese* whatsoever might with full as much ease have stopt the Admiration which his Countrymen were in at our Clocks, when first they were caried thither from *Europe*. For he need only have said, that he perfectly well knew the Reason of what others thought so miraculous, and that the whole of the Matter was that there was in that Machine an *indicative* Virtue, which shews the Hours upon the Plate; and a *sonorific* Virtue, which makes them sound: By this he might have been as learned in the Knowledge of Clocks, as these Philosophers are in the Knowledge of the beating of the Arteries, and of the Proprieties of the Loadstone, of Sena, and of Poppies.

There are several other Words that help to make Men learned without much Pains; such as are Sympathy, Antipathy, occult Qualities. But they would never be mistaken in all this, if they contented themselves with giving to these Words *Virtue* and *Faculty*, a general Notion of Cause, be it what it will, interior or exterior, dispositive or active. For it is very certain that there is in the Loadstone some Dispositions that makes Iron move towards that rather than towards any other Stones; and Men have been allowed to call this Disposition, let it consist in what it will, a *magnetic Virtue*. So that they are decived only in imagining

imag  
Mast  
suade  
imag  
Iron,  
Bu  
for th  
who  
and v  
Disco  
able I  
tion;  
differ  
mittit  
could  
which  
Aspe  
So  
Phisic  
one of  
that if  
of the  
mingle  
in the  
By  
ple wh  
clipse  
to turn  
fatal to  
*H-lvica*  
manner  
have a  
general  
part th  
more th  
not one  
Mortal  
Sometim

imagining themselves to be the more learned for being Masters of that Word, or in endeavouring to persuade us, that by that Word we understand a certain imaginary Quality, whereby the Loadstone attracts Iron, which they nor no body else ever conceived.

But there are others that give us mere Chimera's for the true Causes of Nature, as the Astrologers, who ascribe every thing to the Influences of the Stars, and who have gone so far in it, as to have made a Discovery, that there must of necessity be an immovable Heaven above all those to which they give Motion; because the Earth bearing different things in different Countries (*Non omnis fert omnia tellus. India mittit ebur, molles sua thura Sabæi*) the Cause thereof could be nothing else but the Influences of a Heaven, which being immovable, might always have the same Aspects upon the same Parts of the Earth.

So too one of them having undertaken to prove by Phisical Reasons the Immobility of the Earth, takes one of his main Demonstrations from this wise Reason, that if the Earth turned about the Sun, the Influences of the Stars wou'd be strangely perplexed and intermingled, which would occasion prodigious Disorders in the World.

By these Influences it is that they terrify the People when any Comet appears, or when any great Eclipse happens, as that in the Year 1654, which was to turn the World topsy turvy, but to be Particularly fatal to the City of Rome, as was expressly set down in *Helvicius's* Chronology, *Rome fatalis*; tho' there be no manner of reason why Comets or Eclipses either should have any considerable Effect upon the Earth, nor that general Causes, as they are, should act more upon one part than upon another and threaten a King or a Prince more than a poor Peasant; accordingly of a hundred, not one is followed by any remarkable effect. If Wars, Mortalities, Plagues, and the Death of Princes, do sometimes happen after Comets, and Eclipses: And

besides, those Effects are so general and so common, that it would be a wonder if they should not happen every Year, in some part of the World or other. So that those who say at random, that such a Comet threatens some great Man with Death, need not much fear that they shall be out in their Prediction.

But this is not half so bad, as their assigning these chimerical Influences, as the Cause of the vicious or virtuous Inclinations of Men, and even of their particular Actions, and of the Events of their Life, without any other Foundation, than that sometimes of a thousand Predictions, one happens by chance to be true. But if Men would judge of things by the Rules of good Sense, they must own that a lighted Torch, placed in the Chamber of a Woman in Labour, must have a greater effect upon the Body of the Child, than the Planet of *Saturn*, let its Aspect be what it will, and joined to any other whatsoever.

Lastly, There are others that give chimerical Causes to chimerical Effects, as those, who suppose that Nature abhors a *vacuum*, and that she exerts her endeavours to avoid it, (which is an imaginary Effect; for Nature abhors nothing; and all the Effects that are attributed to that Horror, proceeds merely from the weight of the Air) bring Reasons for that imaginary Horror, which are still more imaginary. Nature abhors a *vacuum*, says one of them, because she has occasion for the continuity of Bodies, for the conveyance of Influences, and the propagation of Qualities. A strange kind of Science this, that proves that which is not, by that which is not.

Wherefore when we are to find out the Causes of the extraordinary Effects that are proposed to us, we are first carefully to examine whether those Effects are true; for often Men give themselves unnecessary trouble to account for things that never were; and there are infinite numbers that should be resolved in the

the f  
whic  
been  
For  
flowe  
rema  
given  
taine  
tion,  
ma, b  
to res  
Moon  
is in a  
and t  
nough  
curiou  
Cray f  
at othe  
is very  
servati  
Sowing  
king o  
le free  
other E  
ever ser  
in some  
Experie  
are obli  
To th  
sual dec  
happene  
must be  
it was t  
of the e  
called th  
of this S

the same manner that *Plutarch* resolves this question, which he proposes to himself: Why Colts that have been pursued by the Wolves, are swifter than others? For after having said, that perhaps those that were slower were catch'd by the Wolves, and that so the remaining were the swifter; or that Fear having given them an extraordinary swiftness, they have retained the Habit of it; he at last offers another Solution, which probably is true: Perhaps says he, there may be nothing at all in the Story. Thus we ought to resolve a vast many Effects that are ascribed to the Moon, as that the Bones are full of Marrow when it is in a full Moon. and empty when it is in its Wane; and that it is the same with Cray-fish; for it is enough to answer that this is all false, as some very curious Persons have assured me it is; the Bones and Cray fish being indifferently, at some times full, and at others empty in all the Quarters of the Moon. It is very probable that it is so too with a hundred Observations that are made for cutting of Wood, for Sowing, or Reaping, for inoculating Plants, for taking of Physic; and the World will by little and little free it self from all this Slavery, which has no other Foundation than Suppositions, which no Body ever seriously found to be true. So that it is injustice in some who pretend, that provided they alledge an Experiment, or a Fact out of an ancient Author, we are obliged to receive it without Examination,

To this sort of Sophism we are also to refer this usual deceit of the Mind; *post hoc, ergo propter hoc*: This happened after such a thing, therefore that thing must be the cause of it. Thus it was concluded, that it was the Star called the Dog-star, that was the cause of the excessive Heat that we feel during the Days called the Dog-days; which made *Virgil* say, speaking of this Star, which in *Latin* is called *Sirius*.



*Aut Sirius ardor :*

*Ille sitim morbosque ferens mortalibus ægis.*

*Nascitur, & lævo contristat lumine coelum.*

Yet. as M. Gassendi has very well observed; nothing can be more improbable than this Imagination ; for this Star being on the other side the Line, its Effects ought to be greater in those Places upon which it shines perpendicularly ; and yet the Days, which we call the Dog-days here, are in Winter there. So that the People of that Country have much more cause to believe that the Dog-star is the occasion of their Cold, than we have to fancy, that is the cause of our Heat.

#### IV.

##### *Imperfect Enumeration.*

There is hardly any vice of Argument, into which Men of Learning fall more easily, than this of making imperfect Enumerations, and of not sufficiently considering all the Manners in which a thing may be or happen ; which makes them rashly conclude, either that is not at all, because it is not in a certain Manner, tho' it may be in another ; or that it must be either in such, or in such a Manner, tho' it may be in a third Manner, that they did not think of.

Instances of such defective Reasonings may be found in the Proofs whereon M. Gassendi establishes the Principle of his Philosophy, which is the *Vacuum* interspaced between the parts of Matter, which he calls *Vacuum disseminatum*. And I shall set them down the more willingly, because Gassendi being a very famous Man, and Master of a great deal of very curious Knowledge, the very faults that may be interspersed in the great number of Works that have been published since his Death, are not contemptible, but deserve to be known ; whereas it is very useless to load one's Memory with those that are to be found in Authors of no Reputation.

The



The first Argument that *Gassendi* uses to prove this interspaced *Vacuum*, and which in one place he insinuates it as clear as a Mathematical Demonstration, is this.

If there were no *Vacuum*, and the whole Universe were full of Bodies, Motion would be impossible, and the universe wou'd be nothing else, but a great Mass of stiff, inflexible, and immoveable Matter: For the Universe being quite full, no Body could stir without taking place of another. Thus if the Body A should stir, it must displace another Body at least equal to it self, namely B; and B, in order to stir, must also displace another. Now this can happen only in two Manners; one, that this displacing of Bodies must go on *ad infinitum*, which is ridiculous and impossible: and the other that it must be done circularly, and that the last displaced Body must fill the place of A.

Thus far there is not any imperfect Enumeration; and it is likewise true, that it is ridiculous to imagine that by the moving of one Body, they should be moved *ad infinitum*, by their displacing one another: All that is pretended, is, that the Motion is circular, and that the Body last moved takes the place of the first, which is A, and that thus the whole continues full. And this *Gassendi* undertakes to confute by this Argument: The Body first moved, which is A, cannot move, if the last, which is X, cannot move: Now X cannot move, since in order to move, it must take the place of A, which is not yet empty; and consequently as X cannot move, so neither can A, therefore the whole remains immoveable. All this Argument is grounded only upon this Supposition, that the Body X, which is immediately before A, can move only in one single Case, which is, if the place of A be already empty when it begins to move; so that just before the instant that it fills it, there be another wherein it may be said to be quite empty.

But this supposal is false and imperfect, because there is yet another Case, wherein it is very possible for X to move: which is, that in the same instant that it fills the place of A, A shall leave that place; and in that Case there is no manner of inconvenience in A's pushing B, and B pushing C, and so on to X; and that X in the same instant should fill the place of A; by this means there will be Motion, and there will be no *Vacuum*.

Now that this Case is possible, that is to say, that it may happen that one Body may fill the place of another, in the same instant that Body leaves it, is a thing we are forced to acknowledge in any Hypothesis whatsoever, provided only that some continued Matter be admitted; for in making distinction in a Stick for instance between two parts that immediately follow each other, it is evident that when we stir it, in the same instant that the first leaves a space, that space is filled by a second; and that there is not any one where we can say, that space is empty of the first, and not filled by the second. This is yet more evident in a Circle of Iron, that turns round its Center; for then each part does in the same instant take up the space that was quitted by the foregoing, without any necessity for imagining the least *Vacuum*: Now if this is possible in an Iron Circle, why may it not be so in a Circle, part of Wood, and part of Air? And if the Body A, which we will suppose to be Wood, pushes and displaces the Body B, which we will suppose to be Air, why may not the Body B displace another, and that other, another; and so on to X, which will enter into the place of A, and in the same instant that A quits it.

Thus it is manifest that the fault of *Gassendi's* Arguments proceeds from his having believed, that one Body could not take the place of another, unless that place were before empty and in a preceding instant; and

and h  
were e  
The  
from  
shews,  
may th  
alread  
Upo  
If the  
pable o  
sion; t  
Penetra  
Air, wh  
did not  
parts o  
Air is  
poves  
between  
by new  
should  
fect En  
Penetra  
rally im  
ums disp  
aims at  
not men  
does no  
that bet  
subtle, a  
pable ef  
that the  
still rec  
Matter  
forcibly  
through  
And C  
this thi  
this sub

and he did not consider that it were sufficient, that it were emptied in the very same instant.

The other Proofs which he brings in are drawn from divers Experiments, whereby he with reason shews, that the Air may be compressed; and that we may throw a new Air into a space that seems full already, as we see in Foot-balls, and Wind-guns.

Upon these Experiments he forms this Argument: If the space A, being already quite full of Air, is capable of receiving a new quantity of Air by compression; this Air that enters into it, must either do so by Penetration into the space already filled by the other Air, which is impossible; or that Air included in A, did not entirely fill it; but there were between the parts of the Air several void spaces wherein the new Air is received; and this second Hypothesis, says he proves my Point, which is, that there are void spaces between the parts of Matter, capable of being filled by new Bodies. But it is wonderful that *Gassendi* should not perceive that he argued upon an imperfect Enumeration; and that besides the Hypothesis of Penetrating, which he with reason judges to be naturally impossible; and the other Hypothesis of *Vacuum*s dispersed between the parts of Matter, which he aims at establishing; there is a third which he does not mention, and which being possible, his Argument does not conclude any thing; for we may suppose, that between the grosser parts of Air, there is a more subtle, and more loose Matter; and which being capable of expiring thro' the Pores of all Bodies, makes that the space, which seems to be filled with Air, may still receive another new Air; because this subtle Matter being pressed out by the parts of Air that are forcibly drove in, makes room for them, by going out through the Pores.

And *Gassendi* was the more obliged to have confuted this third Hypothesis, because that he himself admits this subtle Matter that penetrates Bodies, and passes

through every Pore; since he is of Opinion, that Cold and Heat are *Corpuscula* that enter in at our Pores; that he says the same of Light; and that he even believes, that in the celebrated Experiment daily made with Quicksilver, which remains suspended at the height of two foot three Inches and a half, in Tubes that are longer than that, and leaves at top a space that seems void, and which certainly is not filled with any sensible Matter: He believes, I say, that it cannot reasonably be asserted, that this space is absolutely void, since Light passes through it, which he takes to be a Body.

Thus by filling with subtle Matter these spaces, which he says are void, he will find as much room for the admittance of new Bodies, as if they actually were void.

## V.

To judge of a thing by that which agrees with it only accidentally.

This Sophism is called in the School *fallacia accidentis*; which is when a simple, unrestrained, and absolute Conclusion is drawn from what is true only by accident. This is what is done by the many People that declaim against Antimony, because being ill applied it produces ill Effects: And others who ascribe to eloquence all the ill Effects that it produces when abused: Or to Physic, the Blunders of some ignorant Physicians.

By this it is, that the Heretics of this Age have persuaded so many poor abused People, that they reject the Invocation of Saints, the Veneration of Relics, Prayers for the Dead, as Inventions of Satan; because some Abuses and Superstitions were crept into those Holy Practices, authorized by all antiquity: As if the ill use that Men make of the best things, could render them bad.

Also Men often fall into this vicious Reasoning when they take the bare occasions to be the real Cause.



As if any one should accuse the Christian Religion of having been the cause of the Massacre of infinite numbers of People, who have rather chose to suffer Death, than to renounce Christ; whereas it is neither to the Christian Religion, nor to the Constancy of the Martyrs, that those Massacres are to be imputed; but to the sole injustice and Cruelty of the Pagans.

There is likewise a considerable instance of this Sophism, in the ridiculous Arguments of the *Epicureans* who concluded that the Gods must have a humane Form; because of all the things in the World, Man alone has the use of Reason. *The Gods, said they, are very Happy: None can be happy without Virtue: There is no virtue without Reason; and Reason is no where to be found, but in that which has a humane Form: It must therefore be allowed, that the Gods are in a humane Form.* But they must be stone blind not to see, that though in Man the thinking, and the reasoning Substance is joined to a humane Body; yet it is not the humane Figure, that is the cause of his Thinking, and of his Reasoning; it being ridiculous to imagine, that Reason and Thought depend upon his having a Nose, a Mouth, Cheeks, two Arms, two Hands, two Feet: and therefore it was a boyish Sophism in those Philosophers, to conclude, that Reason could dwell nowhere but in the humane Form, because in Man it was accidentally joined to the humane Form.

## VI.

to pass from the divided Sense to the compounded Sense, or from the compounded Sense to the divided Sense.

The one of these Sophisms is called *fallacia compositionis*, and the other, *fallacia divisionis*. They will be better comprehended by Examples.

JESUS CHRIST says, in the Gospel speaking of his Miracles: *The Blind see, the Lame walk, the Deaf hear.* This cannot be true, any otherwise than taking



these things separately, and not conjointly ; that is to say, in the divided Sense, and not in the compounded Sense. For the blind did not see, remaining blind ; and the Deaf did not hear, remaining deaf : But those saw who had been blind before, and who were so no longer ; and so of the deaf.

It is in the same Sense, that the Scripture says, *God justifies the wicked* : For this does not mean that he looks upon those who are still wicked, as if they were just ; but, that he renders those just by his Grace, who were wicked before.

There are on the other hand Propositions that are true, only in a Sense opposite to the former, which is the divided Sense. As when St. Paul says, That Slanders, Fornicators, Covetous Men, shall not enter into the Kingdom of Heaven : For this does not mean, that none of those who have ever been guilty of those Vices should be saved ; but only, that those who continue to go on in them, and who do not leave them, by turning themselves to God, shall have no share in the Kingdom of Heaven.

It is easy to observe, that no body can pass from one of these Senses to the other without Sophistry ; and that those, for instance, would argue ill, who should promise themselves Heaven, tho' they continued in their Crimes, because CHRIST came to save Sinners ; and that he says in the Gospel, that lewd Women shall have the Precedence of Pharisees in the Kingdom of God ; since he did not come to save Sinners, continuing Sinners ; but to convert them from their Sins.

#### VII.

*To pass from what is true in some few respects, to what is true simply.*

This is what in the School is called, *a dicto secundum quid ad dictum simpliciter*. Here follow some Examples of it : The Epicureans again prove, that the Gods must be of the humane Shape, because no other

is so be  
to be i  
the hu  
in resp  
fect on  
follow  
fection  
that are  
mit of r

We  
nature  
against  
red to  
a God,  
we say,  
choice of  
a choice,  
he has u  
standing  
means  
known  
gards on  
has no a  
tible nei  
ger. E  
standing

It is  
than th  
of a Pe  
what v  
there a  
conclu  
and tha  
ing exp  
Cotra, c  
no Vir  
there c  
wonde

is so beautiful, and every thing that is beautiful, ought to be in God. This is a very weak Argument. For the humane Form is not absolutely Beauty; but only in respect of other Bodies. And therefore being perfect only in some respect, and not simply, it does not follow that it ought to be in God, because all Perfections are in God; there being in him only those that are Perfections simply, that is to say, which admit of no imperfection.

We have also in *Cicero*, in the third Book of the nature of the Gods, a ridiculous Argument of *Cotta's* against the Existence of a God, which may be referred to the same fault: *How*, says he, *can we conceive a God, when we cannot ascribe any Virtue to him? For shall we say, that he has Prudence? But Prudence consisting in the choice of good and Evil, what occasion can God have for such a choice, not being capable of any Evil? Shall we say, that he has understanding and Reason? But Reason and Understanding serve us to discover that which is unknown to us, by means of that which we know. Now nothing can be unknown to God: neither can Justice be in God, since that regards only the Society of Men; nor Temperance, because he has no desires to moderate; nor Fortitude, since he is susceptible neither of Pain, nor of Labour, and is liable to no danger. How then can that be God, which has neither Understanding nor Virtue?*

It is hard to conceive any thing more impertinent than this way of reasoning. It is like the Thought of a Peasant, who having never seen any Houses, but what were covered with Thatch; and being told that there are no thatch'd Houses in Cities, should thence conclude, that there are no Houses at all in Cities; and that those that dwell there are very unhappy, being expos'd to all the injuries of the Weather. Thus *Cotta*, or rather *Cicero* argues. There can be in God no Virtues like those that are in Men: Therefore, there can be no virtue in God. And which is most wonderful in it, he concludes, that there is no Vir-

tue in God, only because the Imperfection which is to be found in humane Virtue cannot be in God. So that it is a Proof to him, that God has no Understanding, because nothing is hid from him; that is to say, he sees nothing, because he sees every thing; he can do nothing, because he can do every thing; he enjoys no Happiness, because he enjoys all Happiness.

## VIII.

*To abuse the Ambiguity of Words, which may be done several ways.*

To this kind of Sophistry may be referred all the Syllogisms, that are vicious, because they contain four Terms; whether it is, because the Medium is 'twice taken particularly; or because it is taken in the first Proposition in one Sense, and in the second in another; or lastly, because the Terms of the Conclusion are not taken in the same Sense in the Premisses that they are in the Conclusion. For we do not restrain the Word Ambiguity barely to such Words as are grossly equivocal, which hardly ever deceives any body: But we thereby understand every thing which may change the Sense of a Word, especially when Men do not easily perceive that Change; because several things being signified by the same Sound, they take it for the same thing. It will not be amiss to read what has been said upon this Subject, towards the end of the first Part, where we have also taught the Remedy that is to be applied to the Confusion of ambiguous Words, by designing them so clearly that no Mistake can possibly happen.

I shall now therefore content my self with producing a few Instances of this Ambiguity which sometimes impose upon Men of Learning. Of this sort is that which is to be found in Words that signifie some whole, which may be taken either collectively for all the Parts together, or distributively for each of the Parts. By this we may resolve this Sophism of the

the St  
Anim  
use of  
there i  
therefo  
this A  
the W  
the be  
more  
tures,  
ter tha  
versali  
that we  
World  
such as  
whole  
Reason  
So ag  
Man th  
therefo  
attribut  
thinks  
not at a

To draw

We ca  
particul  
neral Tr  
several S  
ral Rive  
general,  
fresh.  
that Gol  
judge, t  
no Natio  
speak, w  
that is, r

the Stoics, who concluded, that the World was an Animal endued with Reason : *Because whatever has the use of Reason is better than that which has it not.* Now *there is nothing*, said they, *that is better than the World ; therefore the World has the use of Reason.* The Minor of this Argument is false ; because they attributed to the World that which agrees only with God, namely, the being such as that we conceive nothing better or more perfect : But confining our selves to the Creatures, though we may say, that there is nothing better than the World, taking it collectively for the Universality of all the Beings that God has created, all that we can from thence conclude is, at most, that the World has the use of Reason, in some of its Parts, such as are the Angels and Men, and not that the whole together is an Animal endued with the use of Reason.

So again, it would be very false arguing to say, Man thinks : Now Man consists of Body and Soul ; therefore the Body and the Soul think. For we may attribute Thoughts to the whole Man, though he thinks only in one of his Parts ; from whence it does not at all follow, that he thinks in the other.

## IX.

*To draw a general Conclusion from a defective Induction.*

We call that Induction when the search of several particular things leads us to the Knowledge of a general Truth. Thus when we have had Experience in several Seas, that their Water is salt, and upon several Rivers, that their Water is fresh, we conclude in general, that the Sea-water is salt, and River water fresh. The many Experiments that have been made, that Gold does not decrease in Fire, have made us judge, that the same is true of all Gold. And as no Nation has ever been discovered that does not speak, we take it for very certain, that all Men speak, that is, make use of Sounds to signify their Thoughts.

And



And indeed, it is by this Induction that all our Knowledge begins ; for singular things offer themselves to us before universal, though afterwards universal ones help us to know the singular.

But yet it is true, that Induction alone is never a certain means of acquiring a perfect Knowledge, as we shall shew in another Place ; the Consideration of singular things only putting our Mind in the way of giving Attention to its natural Ideas, according to which it judges of the Truth of things in general. For it is true, for Instance, that perhaps I should never have thought of considering the Nature of a Triangle, if I had not seen a Triangle, that gave me occasion to think of it. But yet it was not the particular Examination of all Triangles that gave me generally, and certainly conclude of all, that the Space they contain is equal to that of the Rectangle of all their Base, and of half of their height. (For such an Examination would be impossible :) But it was the bare Consideration of what is included in the Idea of a Triangle, which I find in my Mind,

Be it as it will, reserving the handling of this Matter to another Place, it is sufficient to say here, that defective Inductions, that is to say, such as are not entire, do often lead into Error : And I shall only give one remarkable Instance of it.

All Philosophers have hitherto imagined it to be an indubitable Truth, that a Syringe being well stop'd, it was impossible to pull out the Sucker without bursting it ; and that Water might be carried up to any height whatsoever by Syphons. And what made them so positive of it was, that they fancied they were assured of it by a very certain Induction, having made infinite Numbers of Experiments in that way. But both are found to be utterly false ; for new Experiments have been made, whereby it has appeared, that the Sucker of a Syringe, be it never so well stop'd, may be drawn out, provided a Force be used equal to the

the W  
three  
ringe ;  
phon t

\*\*\*

Of the

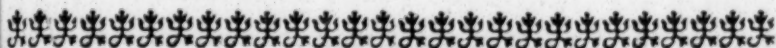
THE

Fau  
of Scien  
in those  
with the  
less dang  
much m  
engages  
in every  
ners, and  
civil Lif  
parate W  
all Mora  
of part o  
are so co

We di  
false Jud  
sought th  
cause fals  
ings, and  
Consequ  
ways a h  
be only a  
thing tha



the Weight of a Cylinder of Water, of above thirty-three Feet high, and of equal thickness with the Syringe ; and that Water cannot be raised up by a Syphon to above thirty two, or thirty three Feet high.



# C H A P. XX.

*Of the false Reasonings that we are guilty of in civil Life, and in common Discourse.*

THE preceeding are Examples of the most common Faults that are committed in reasoning in Matters of Science; but because the chief use of reasoning is not in those sorts of Subjects which have but little to do with the Conduct of Life, and wherein we are even in less danger of being deceiv'd ; it would certainly be much more useful to consider generally, what it is that engages Men in the false Judgments that they make in every thing else and chiefly with relation to Manners, and to other Matters that are of Importance in civil Life, and which are the usual Subject of our separate Work and such a one at might take in almost all Morality, we shall here take only a general View of part of the Causes of those false Judgments which are so common among Men.

We did not think it worth while to distinguish false Judgments from false Reasoning ; and we have sought the Causes of both indifferently ; as well because false Judgments are the Sources of false Reasonings, and draw them along with 'em by a necessary Consequence ; as because indeed there is almost always a hidden, a tacit Reasoning in what seems to be only a simple Judgment ; there being always something that serves as the Motives and Principle of that

Judg-

Judgment. For Example, when we judge that a Stick, which appears crooked in the Water, is so in effect, that Judgment is built upon this general and false Proposition, that whatever appears crooked to our Senses, is crooked in Truth; and so includes an Argument, though not apparent. Upon a general View therefore of the Causes of our Error, they seem referable to two principal ones; the one interior, which is the Depravity of the Will, which disturbs and disorders the Judgment; the other exterior, which consists in the Objects of which we judge, and which deceive our Mind by a false Appearance. Now though these Causes are almost constantly conjoined, yet there are certain Errors wherein one appears more than the other; for which Reason we shall treat of them separately.

## I.

*Of the Sophisms of Self-love, Interest and Passion.*

If we carefully examine what it is that usually attaches Men more to one Opinion than to another, we shall find, that it is not the Conviction of Truth, and the Cogency of Reasons; but some Tye of Self-love, Interest or Passion. This is the Weight that carries down the Scale, and determines us in most of our doubts: This is what has the greatest Influence upon our Judgments, and byasses us most forcibly. We judge of things, not by what they are in themselves, but by what they are with relation to us; and Truth and Advantage are to us no more than one and the same thing.

There need no other Proofs of this than that we see every Day, that things every where else accounted very doubtfull, or even evidently false are reckoned incontestably true by some one Nation, Profession, or Institution: For as it is impossible, that what is true in Spain should be false in France; or that the Mind of all the Spaniards should be so differently turned from

from th  
by the  
general  
to the c  
Judgme  
that the  
is for th  
Interest

Yet w  
Interest  
most th  
more A  
Discover  
true: B  
to be fo  
Desires,  
try; the  
preach'd  
therefor  
true. T  
what Co  
nothing  
to believ  
another

But th  
Alteratio  
thing ha  
who are  
Change  
changed  
tion to i  
the least  
be in any  
against h  
to their C  
to make  
from

from that of all the *French*, that, judging of things by the Rules of right Reason, that which seems in general true to the one, should seem in general false to the other; it is manifest, that this difference of Judgment cannot proceed from any other Cause than that the one are pleased to hold for Truth that which is for their Advantage; and that the others, having no Interest in it, judge of it in a different Light.

Yet what can be less reasonable than to suffer our Interest to be our Motive for believing a thing? The most than it can do, is to engage us to consider with more Attention the Reasons that may bring us to the Discovery of the Truth of what we desire may be true: But nothing less than that Truth, which ought to be found in the thing it self, independent of our Desires, ought to persuade us. I am of such a Country; therefore I ought to believe that such a Saint preach'd the Gospel there. I am of such an Order; therefore I ought to believe that such a Privilege is true. These are very bald Arguments. Be you of what Country or Order you will, you ought to believe nothing but what is true, and what you would be sure to believe though you were of another Country, of another Order, or of another Profession.

## II.

But this Illusion is much more visible when any Alteration happens of the Passions; for though every thing has remain'd in its former Condition, yet those who are filled with any new Passion imagine that the Change which is made only in their Heart, has changed all the exterior things that have any relation to it. How many are there who cannot allow the least good Quality, either natural or acquired, to be in any one, after they have conceived an Aversion against him; or after he has done something contrary to their Opinion, Desire or Interest? This is enough to make him immediately, rash, proud, ignorant, false,

false, dishonourable, void of Conscience. Their Affections and Desires are neither more just, nor more moderate than their Hatred. If they love any one, he is free from all manner of Faults: Every thing that they desire is just and easie; every thing that they do not desire is unjust and impossible; neither can they alledge the least Reason for all these Judgments, except it be very Passion that possesses them: So that though they do not really form in their Mind this set Argument; I love him, therefore he is the most deserving Man in the World: I hate him, therefore he is a Blockhead; yet they form it in some sort in their Heart. Wherefore we may call such Blindness, Sophisms and Illusions of the Heart, which consist in transferring our Passions into the Objects of our Passions, and in judging that they actually are what we desire they should be: Which certainly is very unreasonable, since our Desires can change nothing in the being of that which is extrinsick as to us; and that the Will of God alone is so efficacious as to make every thing such as he would have it to be.

## III.

To the same Illusion of Self-love may be referred that of those who decide every thing by a very general and very commodious Principle, which is, that they themselves are in the right, and that they know the Truth; from whence they very naturally conclude, that all who are not of their Opinion are deceived: And we must confess, the Conclusion is necessary.

The Error of these People proceeds only from this, that the advantageous Opinion they have of their own understanding, makes them imagine all their thoughts to be so very clear and evident, that they fancy the bare propounding of them must oblige every body to submit to them; for which Reason they give themselves no great trouble to look out for Proof of them: They have no Taste for the Arguments of others; they would



would carry every thing by the weight of their Authority ; because they never make a Distinction between their Authority and Reason : They think every body Presuming that is not of their Opinion, not considering that if others are not of their Opinion, neither are they of the Opinion of others : And that it is unjust to take it for granted, without Proof, that we are in the right, when the Point is to convince Persons who are of a different Opinion from us, only because they are persuaded that we are not in the right.

## IV.

So again, there are others that have no other reason for rejecting certain Opinion than this wonderful Argument : If this were so, I should not be so wise a Man ; now I am a wise Man, therefore this is not so. This is the main reason why several very useful Medicines, and undoubted Experiments, have been for a long time together rejected ; because those who had not happened to hit upon them, conceived that they themselves must at that rate have been so long deceived. Why, quoth they if the Blood have a circular Revolution in the Body ; if the Nourishment is not carried to the Liver by the Mesaraic Veins ; if the Blood ascends through the descending hollow Vein ; if Nature as no Antipathy to a *Vacuum* ; if the Air is heavy, and has a Motion downwards, I have been ignorant of several important things in Anatomy and Physics : Therefore it is impossible it should be so. But to cure them of this folly, we need only convince them, that it is very little Shame for a Man to be mistaken, and that they may be very well skilled in other things, though they were not so in those which have been but newly discovered.

## V. No-



Nothing also is more common, than to hear Men mutually upbraiding each other with the same Reproaches, and calling one another, for instance, obstinate, passionate, litigious, when they are of different Opinions. There are hardly any two Pleaders, that do not accuse one another of drawing the Suit into Length, and of concealing the Truth by artificial Shifts ; so that both he that is in the right, and he that is in the wrong, talk the very same Style, and make the same complaints, and charge each other with the same Faults ; which is one of the most mischievous things that is in the Life of Men, and which throws Truth and Error, Justice and Injustice, into such a complicated Perplexity, that the generality of Mankind cannot make any distinction between them. And from hence it happens, that several join one of the Parties without any knowledge of the case, and only as they are directed by chance ; and that others condemn them both, as being equally in the wrong.

All this Extravagance again proceeds from the same Distemper, which makes every one lay it down as a Principle, that he is in the right : For from thence it is very easy to conclude, that all that oppose us are obstinate, since to be obstinate is not to submit to Reason.

But tho' it is indeed true, that these Reproaches of Passion, Blindness, Cavilling, which are very unjust on the part of him that is in the wrong, are just and lawful in him that is in the right ; yet because to give such Language is to take it for granted that the Truth is on the side of him that bestows it, wise and judicious Men, when they handle a disputed Question ought to avoid falling into it before they have thoroughly proved the Truth and Justice of the Cause they maintain. If they followed this Rule, they would never accuse their Adversaries of Obstinacy, Presumption, and

want of common Sense, before they have plainly made it out. They will never say, that they run into intolerable Absurdities and Extravagances, unless they have first shewed it ; for the others will say as much of their side ; and at last it is not doing any thing. So that they were better keep to this impartial Maxim of St. *Austin's* : *Omittamus ista communia, quæ dici ex utraque parte possunt, licet vere dici ex utraque parte non possint* : And then they would be contented with defending Truth by the Arms that are proper to her, and which Falstity cannot borrow, which are clear and solid Arguments.

## VI.

The Mind of Man is not only naturally fond of itself, but it is also naturally jealous, envious and malicious in relation to others : It is uneasy if it sees them possessed of any Advantage, because it desires them all for it self ; and as it is a very great one to know the Truth, and to inform Mankind of any new Discovery we are secretly delighted with robbing them of that Glory which often engages Men in combating the Opinions and Inventions of others without any view of Reason.

Thus self-love often makes this ridiculous Argument : It is an Opinion that I first invented ; it is that of my Order ; it is very convenient for me ; *ergo* it is true, Our natural Malignity often makes this other, which is no less absurd : It was another Man that said it, therefore it is false ; it was not I wrote such a Book, therefore it is good for nothing. This is the Source of that Spirit of Contradiction, which is so common among Men, and which, when they hear or read any Production of another Man, makes them so little weigh the Reasons that might convince them, and think only of those that they fancy they could propose in Answer : They are always upon their guard against Truth, and study only the Ways to vary and obscure it ; in which they almost generally succeed

succeed to their Hearts desire, the Mind of Man being inexhaustible in false Reasons.

When this Vice grows to excess, it is one of the chief Characters of the Mind of a Pedant, who places his chief Happiness in cavilling with others upon the most insignificant things, and in contradicting every thing with a base Malignity: But often it is more imperceptible, and lies deeper hid; and it may even be said, that no body is wholly free from it, because it has its root in that Self-love, which reigns so despotically in us all.

The knowledge of this envious and malignant Disposition, which is seated at the bottom of the Heart of Man, shews us, that one of the most important Rules that we can observe to avoid making our Antagonist adhere to this Error, and giving him a Dispute for the Truth we would convince him of, is as little as possible to stir up his Envy and Jealousy, by speaking of our selves, and to offer him other Objects to engage his Attention.

For as very few love any but themselves, it is with impatience that they suffer another Man to draw the Thought upon him, and lay Traps for their Esteem.

All that they cannot apply to themselves is odious and distasteful, and they generally pass on from the Hatred of the Man to the Hatred of his Opinions and Reasons; for which reason Men of Prudence avoid as much as possible to set in the view of others the Advantages themselves are possessed of; they never attempt to stand face to face with them, and be observed in particular; and they rather try to conceal themselves in the Crowd, that they may not be taken notice of to the intent that when they speak, nothing but the Truth they propose may engage Attention.

The late M. *Pascal*, who knew as much solid Rhetoric as ever was known by Man, carried this Rule to such a pitch, as to affirm, that a Man of good Behaviour ought to avoid naming himself at all, and not to

much as use the Words *I* and *me* ; and he was used to say upon this occasion, that Christian Piety quite annihilated the Humane *Me*, and that Humane Civility quite concealed and suppressed it. Not that this Rule ought to be superstitiously practised ; for there are some Occasions wherein we could not avoid those Words without constraining our selves ridiculously ; but it is always good to have it in view, that we may remove something further from the impertinent Custom of some People, who talk of nothing but themselves, and quote their own Words every moment, when nobody asks their Opinion : Which gives good Cause to those that hear them to suspect, that the having so constant an Eye upon themselves proceeds from a secret Complaisance, which directs them every moment to the Object of their Love ; and this, by a natural consequence, raises in them a secret Aversion for such Men, and for every thing that they say. This shews that there can hardly be any Character more unworthy a Man of Education, than that which *Montaigne* affected, of entertaining his Readers with nothing but an account of his Humours, Inclinations, Fancies, Distempers, Virtues, and Vices ; and that it rises not so much from want of Judgment than from a violent Self-love. It is true, he endeavours as much as he can to throw off the Suspicion of a mean popular Vanity, by speaking freely of his Faults, as well as of his good Qualities, which has something amiable in it, from the Appearance of Sincerity : But it is easy to see, that even this is only a Trick and an Artifice, that ought to make him still more odious. He speaks of his Vices to make them known, and not to make them hated ; he does not think himself the less esteemable upon their score ; he looks upon them to be things almost indifferent, and rather genteel than scandalous. When he discovers them, it is what he is very much unconcerned for, and which, he thinks, make him neither more vile nor more contemptible : But when he is apprehensive



prehenſive that any thing would debaſe him ever ſo little, he is as careful as any body to conceal it. Whereupon a celebrated Author of this Age agreeably obſerves, that tho' he took great pains to inform us in two Places of his Book, that he had a Page, which was an Officer of no great uſe in the Houſe of a Gentleman of ſix thouſand Livers a Year; yet he was not ſo exact in letting us know that he had a Clerk too, having been Counſellor in the Parliament of *Bordeaux*. This Charge, tho' very honourable in it ſelf, not ſufficiently ſatisfying the Vanity he had of ſhewing upon all occaſions the Air of a Gentleman and of a Cavalier, and an Aversion to the Gown and to the Law.

Yet it is probable he would not have ſlubbered over this Circumſtance of his Life, if he could have found ſome Mareſchal of *France* that had ever been Counſellor of *Bordeaux*; as he has been pleaſed to give us to know that he was Mayor of that City, but not till he had informed us, that he ſucceeded to that Office after Mareſchal *Biron*, and that he was ſucceeded by Mareſchal *Matignon*.

But Vanity is not the greateſt Fault of that Author, and he is ſo full of infamous Paſſages, and of *Epigram* and impious Maxims, that it is wonderful he ſhould ſo long be ſuffered to be read by every body, and that there ſhould be even Perſons of Wit that do not perceive the Venom of it.

There needs no greater Proof of his Libertiniſm than the ſcandalous manner he ſpeaks of his Vices; confeſſing in ſeveral Paſſages that he had been engaged in a great number of Diſorders, he nevertheless declares in others, that he does not repent of any thing, and that if he were to live his Life over again he would live as he had hitherto done. As for what he ſays he, *I cannot in general deſire to be other than what I am: I may condemn my univerſal Form, be uneaſy at it, and pray to God for my perfect Reformation, and for Purge of my Wickedneſs; but this I ought not to call Repentance*.



any more than an *Uneasiness* at my not being an *Angel*, or a *Cito*. My *Actions* are regulated and conformed to what I am, and to my Condition : I can do no better, and Repentance properly has nothing to do with things that are not in our power. I never expected to fix the Tail of a Philosopher monstrously to the Head and Body of a vicious Man, nor that the disagreeable End of Life should bely and be assumed of the most pleasant, compleat, and the longest Part of my Life. If I were to live again, I would live as I have lived hitherto ; I neither complained of the Time past, nor fear the Time to come. Impious Words ! and which denote an utter Extinction of all Sense of Religion ; but which are worthy of him that can talk in another Passage thus : I blind'y plunge my self headlong into Death, without considering or studying what it is, as into a dark silent Abyss, that will swallow me up in an instant, and make an end of me in a moment, full of a strong Sleep, full of Insipidity and Indolence. And in another place : Death, which is only a quarter of an hour's Suffering without consequence and harm, does not deserve any particular Precepts.

Tho' this Digression may seem a little remote from our Subject, yet it comes into it again for this reason, that no Book more infects the Reader with an ugly Custom of talking of himself, of being wholly taken up with himself, and of teasing others with his Impertinence : Which strangely corrupts the Reason, both in our selves, by the Vanity that always goes along with such Discourse ; and in others, by the Contempt and Aversion they conceive against us for it. Therefore no Men may be permitted to talk of themselves, but Persons of eminent Virtue, and who, by the manner in which they do it, shew, that if they publish their good Actions, they do it only to stir up others to praise God for it, or to edify them ; and if they publish their Faults, they do it only to humble themselves for them in the eyes of Men, and to deter them from the like. But in the common sort of People it is a ridiculous vanity to trouble others with a relation

of their petty Advantages, and an unsufferable Impudence to discover their scandalous Vices to the World without giving any Marks of Remorse for them; since the utmost Excess of Vice is not to blush or be ashamed for it, nor to be touched with the least Repentance, but talk of it indifferently with other things. And in this lies the Wit of *Montagne*.

## VII,

We must make some distinction between a malignant and envious Contradiction, and another sort of Humour which is less blameable, but which leads into the same Errors in Reasoning : And this is the Spirit of Disputation, which yet is a Fault that very much viciates the Mind.

Not that disputes are to be blamed in general: On the contrary, provided they are rightly used, nothing is of greater service either to the discovery of Truth, or to convince others of it. The Motion of a Mind that employs it self in Solitude, in the Examination of any Matter is usually more cold and heavy ; it has need of a certain Heat that may stir up and awaken its Ideas. And it is commonly by means of the Opposition we meet with, that we discover where lies the difficulty of Persuasion, and the Obscurity of the Subject ; which puts us upon using endeavours to overcome it.

But it must be confessed, that this Exercise is not more useful when rightly applied, and managed without any Tincture of Passion, than it is dangerous when abused, and when a Man makes it a Point of Honour to maintain his Opinion at any rate whatsoever, and to contradict that of others. Nothing is more capable of turning us aside from Truth, and leading us into Error, than this sort of Humour. We accustom our selves insensibly to account for every thing, and to set our selves above Arguments by never yielding to them ; which by little and little carries us on to have nothing

not  
by  
is t  
Qu  
Phi  
find  
aim  
thin  
to o  
T  
long  
is ve  
trove  
up th  
Dispu  
everl  
an Er  
Perfor  
dict, a  
the Fr  
ation  
into th  
titude  
quite f  
bottom  
one lay  
other  
hear w  
Course  
and no  
Weakn  
confou  
at the  
saying  
or with  
Man, p  
how m  
Words

nothing of certain, and to confound Truth with Error by looking on them both as equally probable. This is the reason why it is so uncommon a thing to see a Question determined by a Controversy, and that two Philosophers are hardly ever of a Mind: They always find something to reply and to rejoin, because their aim is to avoid not Error, but Silence; and they think it less shameful to continue to be mistaken than to own that ever they were mistaken.

Thus, without having accustomed our selves by a long Exercise to a perfect Mastery over our selves, it is very difficult to avoid losing sight of Truth in Controversy, because there is hardly any Action that stirs up the Passions more violently. What Vice do not Disputes awaken, says a famous Author being almost everlastingly governed by Rage? We first enter into an Enmity against the Reasons, and then against the Persons: We learn to argue only in order to contradict, and each contradicting, and being contradicted the Fruit of the Controversy is generally the Annihilation of the Truth. One runs into the East, the other into the West; the principal Point is lost in the multitude of Incidents; at the end of an hours fury they quite forget what they were talking of; one is at the bottom, the other at the top, the other on one side; one lays hold of a Word or of a Comparison; the other grows so hot, that he does not so much as hear what is said to him, and he is so engaged in his Course, that he minds nothing but following himself, and not you. There are some that finding their own Weakness are afraid of every thing, refuse every thing confound the Dispute at the very Entrance, or else at the middle of the Contest grow obstinate upon saying nothing at all, affecting an insolent Contempt or with ridiculous Modesty avoid Contention. This Man, provided he can strike the fancy, does not mind how much he lays himself open; the other counts his Words, and puts them into the Scale for so many Rea-

sons: One makes use of nothing but the Advantages of a strong Voice and sound Lungs: There are some that conclude against themselves, and others that tire and stun every body they talk to, with long Preambles and useless Digressions: Lastly, there are some that are very free of their Abuses, and that will make a *German* Quarrel of it, to get rid of the Conversation of one that is too hard for them at Wit. These are the common Vices of our Disputes, and which are very ingeniously represented by the aforesaid Writer, who, never being able to find any true Greatness in Man, was sufficiently acquainted with his Faults: And by this we may judge how capable such Contests are of disordering the Mind, unless extream Care be taken not only to avoid being our selves the first that run into those Faults, but also not to follow those who do run into them; but so to govern our selves, as to see them run riot without our selves deviating from the End that we should always propose to our selves, which is the setting the Truth that we examine in its clearest Light.

## VIII.

There are some Persons, and chiefly those that attend the Court, who knowing the Inconvenience and Disagreeableness of these contradicting Humours, take a quite contrary Course, which is to contradict nothing at all, but to commend and approve all things indifferently: And this is what is called Complaisance, which is a Humour much more advantageous to the Fortune, but full as prejudicial to the Judgment: For as the Contradicters seem always to think that true, which is directly contrary to what is told them, the Complaisant always believe for Truth whatever is told them; and this Habit corrupts first their Discourse, and afterwards their Mind.

By this means Praise has been made so common and is given so indifferently to every body, that we hardly know at present what to conclude from it.

There

Then  
quen  
Aud  
that  
migh  
they  
fusion  
so lit  
Peopl  
dily  
Th  
duce  
accus  
also  
But  
did no  
deter  
There  
amiss  
ly com  
we pra  
tribute  
from  
really  
those  
of Lang  
making  
and of  
lity, wh  
some m  
ther is  
pliments

Amon  
Men into  
and hind  
not forge



There is no Preacher that is not one of the most Eloquent in the Gazette, and that does not ravish his Audience by the profoundness of his Erudition: All that die are illustrious for Piety: The vilest Author might fill whole Books with the Commendations they receive from their Friends; so that in this Confusion of Elogiums, which are scattered about with so little distinction, it is cause of wonder that some People should be so very greedy of them, and so readily swallow all that they receive.

This confusion in the Language cannot fail to produce the same confusion in the Mind; and those who accustom themselves to praise every thing, must needs also accustom themselves to approve every thing: But even tho' the falsity lay only in the Words, and did not affect the Mind, even this were enough to deter the lovers of Truth from being guilty of it. There is no occasion to reprehend whatever we find amiss; but it is necessary to praise only what is really commendable: Otherwise, we throw the Persons we praise after such a manner, into Illusions; we contribute to deceive those; who judge of those Persons from our Commendations, and we injure those who really do deserve them, by making them common to those that do not: In short, we destroy all the Faith of Language, and perplex all the Ideas of Words, by making them no longer the Signs of our Judgments, and of our Thoughts; but only of an exterior Civility, which we pay to those whom we praise in the same manner, as we would a Bow; for nothing further is to be concluded from the generality of Compliments and Commendations.

## IX.

Among the various manners that Self-love throws Men into Errors, or rather strengthens them in them, and hinders them from getting rid of them; we must not forget one, which is certainly one of the Principal



and most common ; it is the engagement to maintain any Truth to which a Man has adhered upon other considerations than those of Truth ; for this view of defending his Opinion, makes him no longer concerned, whether the Reasons he makes use of be true or false, but only whether they may serve to persuade the World of what he maintains ; he uses all sorts of Arguments good and bad, that there may be some for all sorts of People ; and sometimes he even goes so far, as to say things that he knows to be absolutely false, provided they can promote the End he has proposed to himself. Here follow the Examples.

Hardly any Body of common Sense would ever suspect *Montagne* of having believed all the fooleries of judicial Astrology ; and yet when they might help ridiculously to mortify the Vanity of Mer, he gives them to us for very good Reasons : *When we consider, says he, the Dominion and Power those Bodies have, not only over our Lives and Conditions of our Fortune, but even over our Inclinations, which they direct, drive on, and agitate at the mercy of their Influences ; why should we deprive them of Soul, of Life, and of Discourse.*

Would he in another place destroy the advantage Men have over Beasts by the use of Speech ? He tells us ridiculous Stories, whose extravagance he knew better than any Body, and draws from them more ridiculous Conclusions. *There have been some, says he, that have boasted of understanding the Language of Beasts, as Appollonius Thyaneus, Melampus, Tiresias, Thales, and others ; and since what the Cosmographers tell us is true, that there are some Nations that receive a Dog for their King, they certainly must give some certain Interpretation to his Voice and Motions.*

For the same reason we might conclude, that when *Caligula* made his Horse a Consul, the Romans must certainly understand the Orders he gave in the Exercise of that Office : But we cannot reasonably accuse *Montagne* of this silly consequence ; his design was not

to ta  
could  
contr  
of an  
W  
the fa  
that  
which  
Predi  
certain  
Birds :  
Order  
sequen  
ducted  
to ascr  
out the  
produc  
Is it  
nothin  
Treati  
to dest  
for cer  
dently  
talks to  
upon h  
things  
their r  
He m  
as Virg  
telliger  
change  
diversit  
may be  
be seen  
N  
Inger  
Veru  
Mut

to talk Sense, but to make a confused heap of all that could be said against Men ; which yet is a Vice very contrary to the justice of the Mind, and the sincerity of an honest Man.

Who again could endure this other Argument of the same Author, upon the Subject of the Auguries, that the Pagans drew from the flight of Birds, and which the wisest among them ridiculed ? Of all the Predictions of times past, says he, the most ancient and most certain were those which were drawn from the flight of Birds : We have nothing now so admirable ; that Rule, that Order of the stroke of their Wing, by which they drew consequence, of things to come, must certainly have been conducted by some excellent means to so noble an Operation ; but to ascribe this great Effect to some natural disposition, without the Understanding, Consent, and Discourse of that which produces it, is an Opinion evidently false.

Is it not pleasant enough to hear a Man that holds nothing to be evidently true, or evidently false, in a Treatise wrote on purpose to establish Pyrrhonism, and to destroy Evidence and Certainty, vent these Follies for certain Truths, and call the contrary Opinion evidently false ; But he laughs at us all the while he talks to us thus ; and it is inexcusable in him, to play upon his Readers after this manner, by telling them things that he does not believe, and which none in their right Senses can believe.

He must certainly have been as good a Philosopher as Virgil, who does not so much as impute to an intelligence even in the Birds themselves, the regular changes that we see in their Motions, according to the diversity of the Air ; from whence some conjecture may be drawn, as to Rain or fair Weather, as may be seen in these admirable Verses of the Georgics,

*Non equidem cyrdo, quia sit divinitus illis  
Ingenium, aut rerum fato prudentia major :  
Verum ubi tempestas & coeli mobilis humor  
Mut avere vias, & Jupiter hamidu, austris*

*Densat, erant quæ rara modo, & quæ densa, relaxat ;  
Vertuntur species animorum, ut corpora motus  
Nunc hos. nunc alios : dum nubila ventus agebat,  
Concipiant, hinc ille avium concentus in agri,  
Et lætæ pecudes, & ovantes gutture corvi.*

But these Mistakes being voluntary, a little sincerity will teach us to void them ; the most common, and most dangerous, are those which we are not sensible of, from being engaged in defending an Opinion, which dims the Sight of the Mind, and makes it take every thing for Truth that may serve its purpose ; and the only Remedy that can be applied to it, is to have nothing but Truth in view ; and to examine every Reasoning with so much care, that not even prejudice may be able to lead us astray.

*Of the false Reasonings that grow from the Objects themselves.*

We have already observed, that we should not separate the interior Causes of our Errors, from those that arise from the Objects, which may be called exterior ; because the false appearance of those Objects would not be capable of leading us into mistakes, if the Will did not hurry on the Mind to form a precipitate Judgment, before she is yet sufficiently acquainted with the Matter.

But because the Will cannot exercise this Power over the Understanding, in things entirely evident ; it is manifest, that the obscurity of the Objects contributes very much to it, nay, often there are occasions, upon which the Passion that induces us to argue falsely, is very imperceptible ; for which reason it may not be amiss to consider separately these Illusions that grow chiefly from the Things themselves.

# I.

It is a false and impious Opinion, that Truth is so like to Falshood, and Virtue to Vice, that it is impossible

fible  
fed, r  
and  
Impe  
most  
Men.

For  
the g  
duce u  
Faults  
even v  
sider t  
every  
ous, in  
human  
Imitati

The  
sider th  
strong  
strikes  
Truths  
Errors  
trary, i  
great m  
the Err  
and th  
which i

Th  
ner : T  
son ; an  
ed with  
though  
by their  
Truths  
ned.

Wher  
things v  
Evi, we

fible

sible to find which is which: But it must be confessed, that in most things there is a mixture of Error and Truth, of Vice and Virtue, of Perfection and Imperfection; and that this mixture is one of the most common Sources of the false Judgments of Men.

For it is by means of this deceitful mixture, that the good Qualities of Persons whom we esteem, induce us to approve even their Faults; and that the Faults of those we do not esteem make us condemn even what is good in them, because we do not consider that the most imperfect Persons are not so in every thing; and that God leaves in the most virtuous, Imperfections; which being the Remnants of humane Infirmary, ought not to be the Objects of our Imitation nor esteem.

The reason of this is, that Men do seldom consider things by particulars; they judge only from their strongest Impression, and are sensible only of what strikes them most: Thus, when they find several Truths in a Discourse, they do not perceive the Errors that are mixed with them: and on the contrary, if there are some Truths interspersed among a great many Errors, they fix their Attention only upon the Errors; the strongest bearing down the weakest, and the most lively Impression choaking up that which is more obscure.

There is a visible Injustice in judging after this manner: There can be no just Reason for rejecting Reason; and Truth is not the less Truth, for being mixed with Falshood; it does never belong to Men, though it is Men that propose it. Thus, though Men by their Falshoods deserve to be condemned, yet the Truths they advance do not deserve to be condemned.

Wherefore Justice and Reason require that in all things which are thus intermixed with Good and Evil, we should make an exact distinction between them;



them ; and it is in this judicious Separation, that the exactness of the Mind chiefly appears ; by this it is, that the Fathers of the Church have drawn excellent Rules of Manners out of the Books of the Pagans ; and that St. *Austin* did not scruple to borrow from a Donatist Heretic seven Rules for the understanding the Scripture.

Reason always obliges us to do this, when we can make this distinction ; but because we have not always time to examine the particulars of Good and Evil in each thing, it is just upon such occasions to give them the Name they deserve, according to their most considerable part : Thus we may say, a Man is a good Philosopher, when he argues well for the most part ; and that a Book is good, when it visibly contains more of good than of bad.

And here again, in these general Judgments, Men are very apt to be mistaken ; for often they praise or blame things, only according to their least considerable part ; their want of discernment hindering them from discovering what is indeed the principal, when it is not the most apparent.

Thus, tho' the Judges in Painting value the Design infinitely more than the Colouring or Delicacy of the Pencil ; yet the ignorant are more struck with a Picture, whose Colours are bright and glaring than with one more flat in the Colours, but admirable in the Design.

It must however be confessed, that false Judgments are not so common in the Arts, because those who do not understand them, are more easily guided by the Opinion of those that have skill in them ; but they are very frequent in things that are of the Jurisdiction of the People, and of which the World makes bold to judge, as in Eloquence.

A Preacher for instance, is called eloquent when his Periods are well turned, and he makes use of no mean Words : And upon this Foundation, *Monsieur Vangelas* says

says i  
or an  
We a  
he re  
and i  
ter th  
be le  
Lang  
quenc  
the m  
sists i  
in suc  
Audie  
only l  
Truth  
are co  
very e  
and ve  
closely  
takes  
ens th  
observ  
excel  
double  
It m  
teemed  
ance, b  
bottom  
Label,  
Man b  
he doe  
differen  
live in  
commo  
wretch  
Misfort  
deserve



says in one place, that a poor phrase does a Preacher or an Advocate more injury than a poor Argument. We are to believe that this is a Truth of Fact which he relates, and not an Opinion which he authorizes; and it is very true, that there are many who judge after this manner; but it is also true, that nothing can be less reasonable than such Judgments: For purity of Language, numerous Figures, are at most in Eloquence, what Colouring is in Painting, that is to say, the meanest and grosser part of it: But the main consists in conceiving strongly, and in expressing them in such a manner, as to convey into the Mind of the Audience clear and lively Image, that may not only barely represent those things in their naked Truth but joined with the Passions with which they are conceived: And this is often found in Persons not very exact in Language, nor numerous in their Style; and very seldom in those that apply themselves too closely to Words and Embellishments; for this view takes of their Attention from the Things, and deadens the Vigour of their Thoughts; as the Painters observe, that those who excel in Colouring, seldom excel in Design the Mind not being capable of this double Application, and one hindering the other.

It may be said in general, that most things are esteemed in the World only for their outward appearance, because there are extremely few that dive to the bottom of things: Every one is judged by the outside Label, and happy is he that has a spacious one. Let a Man be as learned, as wise, as solid as you please; but he does not speak readily, and acquits himself but indifferently of a Compliment; let this Man resolve to live in the World with but little esteem from the common sort of People, and to see a vast number of wretched Fellows preferred before him, It is no great Misfortune for a Man to be denied the Reputation he deserves; but it is a very great one to follow such false Judgments

Judgments and look only upon the Bark of things :  
And this is what we should strive to avoid.

## II.

Among the Causes that engage us in Error by a false Lustre that hinders us from knowing it, we may justly reckon a certain magnificent and pompous Eloquence, which *Cicero* calls *abundantem sonantibus verbis uberiusq; sententiis*. For it is amazing with what ease a false Argument flows in the tail of a Period that fills the Ear, or of a Figure that surprises and amuses us.

These Ornaments not only cover the Falshoods that are mixed in the Discourse, but Imperceptibly draw the Writer into them because they are often necessary for the justness of the Period, or of the Figures. Thus, when we hear an Orator begin a long Gradation, or an Antithesis consisting of several Members, we have reason to be upon our guard, because he seldom gets through it without giving some contorsion to the Truth, to adjust it to the Figure : He generally handles it as they do the Stones of a Building, or the Metal of a Statue ; he cuts, widens, bends it, disguises it as he may best bring it into the vain Work of Words that he is forming.

How many false Thoughts have been produced for the sake of a Point ? How many have been drawn in to lie for the clink of the Rhime ? How many Follies have some *Italian* Authors been contented to write, through Affectation of using no Words but *Cicero's*, and of composing what they call pure *Latin* ? Who could help laughing to hear Cardinal *Bembo* tell us, that a Pope had been elected by favour of the Immortal Gods *Deorum immortalium beneficiis*. So too there are Poets, that imagine it to be essential to Poetry, to introduce the Pagan Divinities ; and a *German* Poet, who was as good as a Versifier, as he was an injudicious

ous W  
cis Picu  
wherein  
Christia  
jumbled  
Electo  
if he ha  
prove i  
of Hesi  
Fables  
that he

Thes  
those th  
first tha  
the four  
own Fi  
certain  
Though  
them if

It is I  
what m  
induced  
she need  
she had  
that wa  
red this  
have to  
a Lang  
Courtes  
Vestals  
Tongue  
cient Ve  
these Ar  
good as  
Vestals  
men tha

The f  
frequent

ous Writer, having been justly reprehended by *Francis Picus Mirandola*, for having admitted into his Poem wherein he describes the Wars of Christians against Christians, all the Pagan Divinities ; and of having jumbled *Apollo, Diana, Mercury*, with the Pope, the Electors, and the Emperor, ; very fairly averred, that if he had not done so, he had been no Poet ; and to prove it, alledged this strange Reason, that the Verses of *Hesiod, Homer*, and *Virgil*, are full of the Names and Fables of those Gods ; from whence he concluded, that he might safely follow their Examples.

These false Reasonings are often imperceptible to those that make them ; and they themselves are the first that are deceived ; they deafen themselves with the sound of their own Words, the Glare of their own Figures dazles them, and the Magnificence of certain Words attracts their Assent unwittingly to Thoughts so unsolid, that they would certainly reject them if they gave themselves time to think.

It is likely for Instance, that the Word Vestal was what mightily pleased an Author of our Time, and induced him to tell a young Lady, to satisfy her that she need not be ashamed of understanding *Latin*, that she had no cause to blush for speaking a Language that was spoke by the Vestals : For if he had considered this Thought, he had found that he might as well have told her, that she ought to blush for speaking a Language, that was formerly spoke by the *Roman* Courtisans, who were much more numerous than the Vestals ; or that she ought to blush for speaking any Tongue but that of her own Country, since the ancient Vestals spoke only their native Tongue. All these Arguments, which are good for nothing, are as good as that Author's ; and the Truth is, that the Vestals can neither help to justify nor condemn Women that learn *Latin*.

The false Reasonings of this Nature, that are so frequently to be met with in the Writings of those  
that

that most affect to be eloquent, evince how necessary it is for all that write or speak to be convinc'd of this excellent Rule, That nothing is more beautiful than what is true; which wou'd cut out vast numbers of vain Ornaments, and false Thoughts. It is true, this Exactness makes the Style more dry, and less pompous; but then, it also makes it more lively, more serious more clear, and more worthy an honest Man; the Impression it leaves is much stronger, and much more durable; whereas that which arises merely from those well-turned Periods is so superficial, that it vanishes away almost as soon as the Sound of the Words is lost.

## III.

It is a very common fault among Men to judge by of the Actions and Intentions of others, and they fall into it by nothing else but a false reasoning; whereby, not knowing distinctly enough all the Causes that may produce some Effect, they ascribe that Effect precisely to one Cause, when it may have been produced by several others; or they suppose, that a Cause, which by accident has had a certain Effect upon one occasion, when join'd to several Circumstances, must have it upon all occasions.

A Man of Learning happens to be of the same opinion as a Heretic, in a Point of Criticism independent of any Religious Controversy: A malicious Adversary shall therefore conclude, that he has an Inclination for Heretics; but this Conclusion will be rash and malicious, because perhaps it is Reason and Truth that engage him to this opinion.

An Author shall inveigh with some warmth against an Opinion which he thinks dangerous: Upon this he shall be accused of Hatred and Animosity against those that advanced it; but it will be unjustly and rashly, since that warmth might arise from Zeal for the Truth full as well as from Hatred to the Person.

A Man

A Man  
conclu  
is the  
perhap  
hand i  
A M  
whom  
they, b  
getful  
All  
that is  
it is to  
ticular  
for so d  
and Jud  
sometim  
ness of  
stancy,  
reasonin  
this onl  
have go

The f  
ons are  
are one  
sonings  
with the  
and after  
cide all t  
There  
by the m  
fail of suc  
clude tha  
its Profes  
There  
Women:  
conceive



A Man is the Friend of a Libertine; therefore, conclude they. he is bound in Interest with him, and is the Partaker of his Crimes: This does not follow; perhaps he did not know of them, or at least had no hand in them.

A Man fails to pay some piece of respect to those to whom he owes it: He is a proud insolent Fellow, say they, but it might only be Inadvertence, or bare Forgetfulness,

All these exterior things are only equivocal Signs, that is to say, such as may signify several things, and it is to judge rashly to determine that Sign to a particular thing, without having some particular reason for so doing. Silence is sometimes a Sign of Modesty and Judgment, and sometimes of Stupidity: Slowness sometimes denotes Prudence, and sometimes Heaviness of Wit. Change is sometimes a Sign of Inconstancy, and sometimes of Sincerity. Thus it is false reasoning to conclude, that a Man is inconstant from this only, that he has changed his opinion: He might have good reason for changing.

## IV.

The false Inductions by which general Propositions are drawn from some particular Experiments, are one of the most common Sources of the false Reasonings of Men; three or four Instances is enough with them to form a Maxim and a common Place, and afterwards to make use of it as a Principle to decide all things.

There are a great many Distempers not understood by the most skilfull Physicians, and Medicines often fail of success: Some excessive Spirits therefore conclude that there is nothing at all in Physic, and that its Professors are no better than Quacks.

There may possibly be some few light and loose Women: This is ground enough for the Jealous to conceive unjust Suspicions against the most Virtuous, and



and for licentious Writers to condemn them all in general.

There are many Persons that conceal great Vices under an Appearance of Piety: Libertines thereupon conclude that all Devotion is Hypocrisy.

There are many things obscure and hidden, and Men are sometimes grossly deceiv'd. All things are obscure and uncertain, say the ancient and modern Pyrrhoni-ans, and we cannot know the Truth of any thing with certainty.

There is inequality with some Actions of Men: This is enough to form a common place out of which not one is excepted: *Reason*, say they, *is so blind and so weak, that nothing, be it ever so easy, is sufficiently clear to her; easy and hard are the same thing to her; all subjects equally, and Nature in general disowns her Jurisdiction. We do not think what we will till the instant that we will it; and we will nothing freely, absolutely, or constantly.*

Few can represent the Faults or good Qualities of others, but by general and excessive Propositions: From some particular Actions they conclude a habit of them; of three or four faults they make a Custom: What happens once a Month, or once a Year, happens every Day, every Hour, every Moment in the Talk of Men: so little care do they take to keep within the bounds of Truth and Justice in their Discourse.

#### V.

It is a Weakness, and an Injustice much condemn'd and little avoided; to judge of Counsels by Events, and to charge those who, according to the Circumstances that were before them, took a prudent Resolution with the blame of all the ill Consequences that follow'd upon them either by mere Chance, or by the Malice of those that cross'd it, or by some other Accidents, which it was impossible, they shou'd foresee. Men not only love to be as happy as wise, but they make no difference between happy and wise, nor between un-  
happy

happy and  
subtile. that they  
the Astr fail to tel  
it; so the  
ver fail t  
served th  
ceed; th  
gues, and  
there alw  
ments of  
of things  
commend  
that do n

But th  
mong Me  
judging r  
not suffici  
ding the  
propound  
Authority  
To con  
only conf  
believe or  
and essent  
it; but u  
which eit  
gine to be  
The res  
often lies  
Men are g  
and of fal  
are clear a  
clin'd to w  
ways adh  
terior Ma

happy and guilty : Such a Distinction they think too subtle. tho' very good at pointing out the Faults that they imagine occasion'd the ill Success: And as the Astrologers after they know any accident, never fail to tell you the Aspect of the Stars that produc'd it; so these Men, after Misfortunes and ill Success never fail to discover that those who fell into them, deserved them by some Imprudence : He did not succeed ; therefore he is in fault. Thus the World argues, and thus the World always has argued, because there always has been very little Equity in the Judgments of Men ; and that not knowing the true Causes of things, they assign fictitious Causes after the Events, commending those that succeed, and blaming those that do not.

## VI.

But there are no false Reasonings more frequent among Men, than those wherein they fall either by judging rashly of the Truth of things by an authority not sufficient to give us certainty in them, or by deciding the Essence of the Question by the Manner of propounding it. We shall call the one, the Sophism of Authority; and the other, the Sophism of the manner.

To conceive how very frequent they are, we need only consider, that most Men are not determin'd to believe one Opinion rather than another upon solid and essential Reasons, that might evince the Truth of it ; but upon certain exterior and foreign Marks, which either are more agreeable, or which they imagine to be more agreeable to Truth than to Falshood.

The reason is, that the interior Truth of things often lies very much concealed ; that the Minds of Men are generally weak and obscure, full of Clouds, and of false Lights ; whereas these exterior Marks are clear and sensible. So that as Men are easily inclin'd to what is more easy to them, they almost always adhere to that side where they find these exterior Marks, which they can easily discern.

These

These Marks may be reduced to two principal ones; the Authority of the Proposer, and the Manner it is proposed in: And these two ways of Persuasion are so effectual, that they carry the Assent almost of the whole World.

And therefore God, who was pleas'd that the certain Knowledge of the Mysteries of Faith wou'd be acquirable by the most simple among the Faithful, has the Goodness to accommodate himself to this Weakness of the Mind of Man, in not making it depend upon a particular Examination of all the points that are propos'd to our Belief; but by giving us, as the certain Rule of Truth, the Authority of the Universal Church, which proposes them to us; and which being clear and evident, preserves their Minds from all the Confusion in which the particular Discussions of the Mysteries must of necessity have engag'd them.

Thus in Matters of Faith, the Authority of the Universal Church is entirely decisive; and it is so far from being possible that she shou'd be a Cause of Error, that none ever fall into Error but when they stray from her Authority, and refuse Submission to it.

Convincing Arguments in Matters of Religion, are also drawn from the Manner wherein they are propos'd. When there arose, for instance, in several Ages of the Church, and principally in the last, Persons that endeavour'd to plant their Opinions by Fire and Sword, when we saw them armed against the Church, against Schism; against the Temporal Powers by Rebellion; when we saw People without any ordinary Mission, or without Miracles, without any exterior Marks of Piety, and rather with visible Marks of Disorder and Contention, undertake to change the Faith and Discipline of the Church; so criminal a Manner was more than sufficient to make them be rejected by all Men of Sense, and to hinder the most ignorant from giving ear to them.

But in things whose Knowledge is not absolutely necessary, and which God has left more to the discernment of the Reason of every one in particular, the Authority and the Manner are not so considerable; and they often, on the contrary, engage Men in Judgments contrary to the Truth.

We do not here undertake to give Rules, and set down the exact Limits of the Difference that is owing to Authority in humane things; but only to point out some of the grosser Faults that are committed in this matter.

Oftentimes nothing is regarded but the Number of Witnesses, without considering whether the Number makes it more probable that they have happen'd upon the Truth, which is not reasonable. For as an Author of our Days has judiciously observ'd, in difficult things, and which every Man must of necessity find out far from himself, it is more probable that one single Man shou'd find out Truth, than that it shou'd be discover'd from many. So that this following is no good Conclusion: This Opinion is held by the greater Number of Philosophers, therefore it is the true.

Often People are persuaded of certain Qualities, which have no manner of connection with the Truth of the things that are in question. Thus there are many, that without the least Examination believe those that are the oldest, and that have most Experience, even in things which do not depend either upon Reason or Experience, but upon the Clearness of the Marks of them.

Piety, Wisdom, Moderation, are undoubtedly the most valuable Qualities that are in the World, and ought to give great Authority to those that possess them, in such things as depend upon Piety, Sincerity, and even upon a light from God, which it is probable God communicates in a larger measure to those that live him in greatest Purity. But there are a vast many things that depend wholly upon Humane Knowledge,



ledge, Humane Experience, Humane Penetration ; and in such things, they who have the advantages of Capacity and Study, deserve more Belief than any others. Yet, the contrary often happens, and many think it the safest way even in those things to follow the best and devoutest Men.

This, in part, happens because these Advantages of the Mind are not so manifest to Sight as the exterior Regularity that appears in Persons of Piety ; and in part also, because Men do not love to make Distinctions : Discussion is uneasy to them ; they will have all or nothing. If they have Belief for a Man in one thing, they will believe him in all ; if they have none for another Man, him they will believe in nothing ; they love those Ways best, that are most short, decisive and easy. But this Humour, though common, is still contrary to Reason, which informs us, that the same Persons are not to be consulted upon all Matters, because they are not eminent in all, and that it is a very weak Argument to conclude : He is a grave Man ; therefore he is skillful and understanding in all things.

## VII.

We must own, that if any Errors are pardonable, they are those which we run into by paying more Deference than is necessary, to the Opinion of those whom we account Men of Virtue. But there is an Illusion much more absurd in it self, and yet is very common ; which is, to believe that a Man speaks Truth, because he is of Quality, of Riches, or high in Dignity.

Not that any Body soberly forms such Arguments as these ; he has a hundred thousand Livres a Year, therefore he says right ; he is of a great Family, therefore we ought to believe that whatever he advances is true ; he is a Fellow of no Estate, therefore he speaks false : Yet something like it does pass in the Mind of

most P  
out th  
Let  
of Qu  
be app  
latter s  
being h  
Humou  
ly in th  
all are f  
Clouds  
have we  
verbum i  
& d cun  
It is c  
very gre  
the Wor  
that they  
fulness,  
which is  
imitable  
also certa  
is said an  
jealous o  
ness, and  
its Lustre  
rounds th  
impression  
The rea  
ruption of  
Passion for  
a great dea  
ties, by m  
are obtain'  
things whi  
happy that  
py, we place  
as Persons



most People, and carries away their Judgment, without their perceiving it.

Let one and the same thing be proposed by a Man of Quality, and by a poor Man; it shall generally be approv'd in the Mouth of the former, while the latter should hardly so much as obtain the favour of being heard. Scripture means to inform us of this Humour of Mankind, when it represents it so naturally in the Book of *Ecclesiasticus*. If the rich Man speaks, all are silent, and his Words are raised up unto the Clouds: The poor Man speaks, and they ask, who have we here? *Dives locutus est, & omnes tacerunt, & verbum illius usque ad nubes perducent: Pauper locutus est, & d'cunt: Quis est hic?*

It is certain, that Complaisance and Flattery have a very great share in the Approbation that is given to the Words and Actions of Men of condition; and that they often attract it by a certain exterior Gracefulness, and by a free, natural, and noble Gesture; which is often so particular to them, that it is hardly imitable by those who are of mean Birth: But it is also certain, that there are many who approve all that is said and done by the Great, out of an inward Abjection of Mind, which bows under the load of Greatness, and which has not eyes strong enough to bear its Lustre; and that this exterior Pomp which surrounds them, always imposes a little, and makes some impression upon the strongest Souls.

The reason of this Deceit proceeds from the Corruption of the Heart of Man; which having a strong Passion for Honour and Pleasures, necessarily conceives a great deal of Love for the Riches and other Qualities, by means whereof those Honours and Pleasures are obtain'd. Now the Love we have for all those things which the World esteems, makes us judge those happy that possess them; and in judging them happy, we place them above ourselves, and look upon them as Persons of an eminent and exalted Nature. This

Custo n

Custom of beholding them with esteem, passes insensibly from their Fortune to their Mind. Men seldom do things by halves : They therefore give them a Soul as exalted as their Rank ; they submit to their Opinions : And this is the reason of the Credit they generally meet with in the Affairs they transact.

But this Illusion is yet much stronger in those of the Great themselves, who have not been studious to correct the Impression that their Fortune naturally makes upon their Mind, than even in their Inferiors. There are very few that do not make a reason of their Quality and Wealth, and that do not think their Sentiments ought to prevail above those who are below them. They cannot bear that such Inferiors whom they look down upon with Contempt, should presume to have as much Judgment and Reason as themselves : And this is what makes them so impatient of the least Contradiction.

All this likewise proceeds from the same source : that is to say, from the false Ideas they have of their Greatness Nobility, and Riches. Instead of considering them as things wholly foreign from their being, which do not make them at all different from the rest of Mankind, either in Soul or Body, and which do not hinder their Judgment from being as weak and liable to Error, as that of any Body else : They in a manner incorporate into their very Essence all these Qualities of Great, Noble Rich, Master, Lord, Prince ; they magnify their own Idea with them, and never represent themselves to themselves without all these Titles, Pomp, and Attendance.

They are accustomed to look upon themselves from their very Infancy, as a separate Species from the rest of Mankind ; their Imagination never mixes them with the Crowd of Humane beings ; they are always Earls and Dukes in their own Eyes, and never barely Men. Thus they cut themselves out a Soul and a Judgment, by the measure of their Fortune.

and u  
to Se

The  
least t  
himself  
long B  
and, if  
for him  
than w  
Body,  
Judgme  
entirely  
terior t  
do, is t  
to gives  
nothing  
to those  
it effect  
Vivacity  
find out  
Qualitie  
weighed  
made be  
from each  
can be co  
approved  
had a gre

There  
prizes tha  
rally indu  
he speaks  
ration, an  
that a Ma  
bly, or gi  
his Behav  
Yet if w  
these exte

and do not think themselves less above the rest as to Sense, than they are as to Condition and Fortune.

The Folly of the Mind of Man is such, that the least thing will help to enlarge the Idea he has of himself: A great House, a fine Suit of Cloaths, a long Beard, make them think themselves the wiser; and, if he will own the truth, he has a greater value for himself when he is in a Coach, or on Horseback, than when on foot. It is very easy to convince every Body, that nothing can be more ridiculous than such Judgments; but it is very difficult to guard ourselves entirely from the secret Impression that all these exterior things make upon the Mind. All that we can do, is to accustom ourselves as much as we can, not to give any Authority to Qualities that can contribute nothing to the discovery of Truth; and to give even to those that do, no more than as they contribute to it effectually. Age, Learning, Study, Experience, Wit, Vivacity, Retention, Exactness, Diligence, are what find out the Truth of hidden things; and so those Qualities deserve regard: But yet they are to be weighed with care, and afterwards comparison be made between them, and the contrary Reasons. For from each of these things in particular, nothing certain can be concluded, since very false Opinions have been approved by Persons of very good Capacity, and who had a great share of the above-mentioned Qualities.

## VIII.

There is yet something more catching in the Surprizes that arise from the Manner. For we are naturally induced to believe a Man is in the right, when he speaks with Gracefulness, Ease, Gravity, Moderation, and Mildness; and to believe, on the contrary that a Man is in the wrong when he speaks disagreeably, or gives Marks of Passion, Fury, presumption in his Behaviour, and in his Words.

Yet if we judge of the bottom of things only from these exterior and evident Manners, it is impossible to

R

avoid

avoid being often deceived. For there are some, that in a very grave and modest Manner propose nothing but Follies ; and others, on the contrary, that though they are of a hot Nature, or even fir'd with some Passion that appears in their Face and in their Words, have nevertheless the Truth on their side. There are very narrow, and very superficial Capacities, that, having been educated at Court, where the Art of pleasing is more studied and better practis'd than any where else, have very agreeable Manners under which they pass off a great many false Judgments ; and there are others, on the contrary, that having no outward shew, have at the bottom a great and a solid Genius. There are some that speak better than they think, and others that think better than they speak. Thus Reason requires those that are capable of obeying her Commands, not to judge by these exterior Marks, and to yeild to the Truth not only when it is proposed with shocking disagreeable Manners, but even when it is intermingled with abundance of Falsities. For one and the same Person may speak true in one thing, and false in another ; be in the right in this Point, and in the wrong in that.

Every thing therefore is to be consider'd separately ; that is to say, we shou'd judge of the Manner by the Manner, and of the Essence by the Essence ; and not of the Essence by the Manner, nor of the Manner by the Essence. A Man is in the wrong to speak with Passion, but he is in the right to speak with Truth ; and another, on the contrary, is in the right to speak gravely and civilly, but in the wrong to advance Falsities.

But as it is reasonable to be upon our guard not to conclude, that a thing is true or false because it is propos'd in such or such a Manner ; it is also just, that those who desire to persuade others of some Truth that they themselves know, shou'd study to cloath it with such Manners as may the more easily gain Approbation, and to void such odious Manners as are not fit to give Men a Disgust to it.

Th  
to ent  
side is  
Misfo  
is nec  
If t  
dishon  
hood  
draw u  
shocki  
the gra  
more u  
the W  
be in th  
in the l  
ten gre  
Effence  
And  
ter, ob  
from for  
than the  
they fin  
to think  
we shou  
but it is  
lieve for  
mit to t  
they do,  
Manners  
entrance  
being mo  
ceive the  
not conce  
being thu  
Authority  
is presum  
disgust hi  
to carry l

The



They ought to remember, that when their design is to enter into the Mind of Men, to have Truth on their side is but a small Advantage; and that it is a great Misfortune to have only Reason, and not to have what is necessary to give People a relish for Reason.

If they seriously honour Truth, they ought not to dishonour it by covering it with the Marks of Falshood; and if they love it sincerely, they ought not to draw upon it the Hatred and Aversion of Men by the shocking Manner in which they propose it. This is the greatest Precept in Rhetoric, and is so much the more useful, as it helps to regulate the Soul as well as the Words. For though it be two different things to be in the wrong in the Manner, and to be in the wrong in the Essence; yet the Faults of the Manner are often greater and more considerable than those of the Essence.

And indeed all those haughty, presumptuous, bitter, obstinate, passionate Manners, always proceed from some Weakness of the Mind, and are often worse than the want of Understanding and Quickness, which they find fault with in others: and it is always unjust to think to persuade by such Behaviour: For it is just we should yield to Truth when she is shewn to us; but it is not just that Men shou'd expect others to believe for Truth whatever themselves believe, and submit to their bare Authority. And yet this is what they do, when they propose Truth in those shocking Manners. For the Air of the Speaker generally finds entrance into the Mind before his Reasons, the Mind being more ready to receive that Air, than to conceive the Solidity of his Proofs, which often to are not conceivable at all: Now the Air of the Speaker being thus separated from his Proofs, denote only the Authority that he takes upon himself; so that if he is presumptuous and insolent, he must of necessity disgust his Hearers; because he seems as if he meant to carry by a sort of a tyrannical Authority, what



ought to be obtain'd only by Reason and Persuasion.

This injustice is still greater if these shocking Manners happen to be practis'd in combating receiv'd and common Opinions; for the Reason of a single Man may indeed be preferable to that of many, by being truer: but certainly a private Man ought never to pretend, that his Authority shou'd outweigh that of all Mankind besides

Thus not only Modesty and Prudence, but even Justice obliges Men to put on a submissive Air when they argue against common Opinions, or settled Authority; because otherwise they cannot avoid the Injustice of setting up the Authority of a single Man against either a public Authority, or at least one greater, and more settled than his own. We cannot use too much Moderation when we are about disturbing the Possession of a receiv'd Opinion, or of a Belief that has a long time prevail'd: Which is so true, that St. Austin extends it even to the Truths of Religion, having given this excellent Rule to all those that are oblig'd to instruct others:

*Wise and devout Catholics, says he, teach what they are to teach to others, in this manner: If they are common and authorized things, they propose them with Confidence, and without any sign of doubt, accompanying them with all possible Mildness. But if they are things extraordinary, tho' they are very certainly assured of the Truth of them, they propose them rather as Doubts and Questions to be examined, than as settled Dogma's and Decisions; that herein they may accommodate themselves to the Weakness of their Hearers.*

If a Truth is so high, that it exceeds the Capacities of their Audience; they rather chuse to defer it for some time, to give them leisure to increase in strength, and to become capable of it, than to discover it to them in that state of Weakness wherein it wou'd be such a load as to sink them.

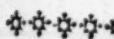
*The End of the third P A R T.*

T H E



F

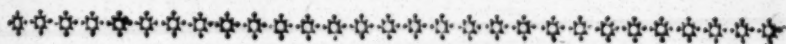
L



monstrati  
single Ar  
ings, wh  
that in or  
sufficient  
are very f



THE  
FOURTH PART  
OF  
LOGIC.



OF METHOD.

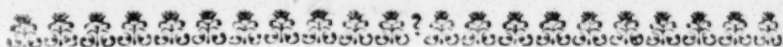


It remains that we explain the last Part of Logic, relating to Method, which is undoubtedly one of the most useful and most important. We thought it necessary to join thereunto the Rules of Demonstration because it does not usually consist in one single Argument, but in a Series of several Reasonings, whereby some truth is invincibly proved; and that in order to form a good Demonstration, it is not sufficient to know the Rules of of Syllogisms, which are very seldom mistaken; but that the main lies in

well disposing the Thoughts, by making use of those that are clear and evident to pierce into that which seems to be more concealed.

And at the end of Demonstration is Knowledge, it will not be amiss to premise something concerning that.

*of the Ignorance of the Mind.*



## CHAP. I.

*Of Knowledge. that there is such a thing. That the knowledge of things by the Mind, is more certain than what we know by our Senses. That there are some things which the Humane Mind is incapable of knowing. The Advantage of this necessary Ignorance.*

**I**F when we consider some certain Maxim, we are sensible of the Truth of it by it self, and that it carries along with it such Evidence, as persuades us without any other Reason, this sort of Knowledge is called *Understanding*, and thus it is that we understand the first Principles.

But if it do not persuade us by it self, there is need of some other Motive to determin us, and this Motive is either Authority or Reason: If it be Authority that over-rules us, this is what is called Faith. If it be Reason, then either this Reason does not produce an entire conviction, but leaves some doubt still behind, and this acquiescence of the Mind, so accompanied with some sort of scruple, is called Opinion.

Or if this Reason entirely convinces us, then, either it is only clear in Appearance and for want of attention, and the Persuasion which it produces is an Error, if it be in reality false; or at least a rash Judgment,

if

if, bei  
to beli

But

and tr

and ex

by the

more l

this R

which

The

Knowl

tices gr

neral, w

For thi

to Kno

Ther

deny it,

the wh

some ha

mitting

The ot

Probabi

alike ob

But

have ma

any whe

and no M

Joys and

nothing

which

would cl

of Life.

Philosop

Conscien

by whic

differe

tween M

ther they

if, being true in it self, we have not sufficient reason to believe it true.

But if this Reason be not only apparent, but solid and true; (which is discoverable by a more diligent and exact Attention, by a more firm Persuasion, and by the nature of the clearness, which ought to be more lively and piercing) then the conviction which this Reason produces, is called Knowledge, about which many Questions arise.

The first is, whether there be any such thing as Knowledge, that is to say, whether we have any Notices grounded on clear and certain Reasons, or in general, whether we have any clear and certain Notices : For this Question relates as well to Understanding, as to Knowledge.

There have been some Philosophers, who *ex professo* deny it, and even have built upon this Foundation the whole Structure of their Philosophy: Among these, some have gone no further than to deny Certainty, admitting Probability, and these are the new Academics: The other sort, who are the Pyrrhonians, deny even Probability it self, and pretend that every thing is alike obscure and uncertain.

But the Truth is, none of these Opinions, which have made such a noise in the World, ever subsisted any where, but in Discourses, Disputes, and Writings, and no Man ever gave seriously into them : They were Joys and Amusements of ingenious Persons, that had nothing else to do ; but never the Sentiments of which they were plainly possess, and which they would choose to govern themselves by in the Conduct of Life. And therefore the best way to convince these Philosophers, is to cite them to the Tribunal of their Conscience, and ask them after all these Discourses, by which they endeavour to show, that there is no difference between Sleeping and Waking, nor between Madness, and being in a Man's Senses, whether they do not verily believe at the same time, in de-

pite of all their Reasons, that they are both asleep, and in their Wits; if they had the least remainder of Ingenuity, they would give the lie to all these Vanities and Subtilties, and frankly confess, that they could never believe these Things, though they should make it ever so much their endeavour.

But if there should be any Person who should doubt whether he were awake, or in his Senses, or could believe that the Existence of all exterior Things is uncertain, and that he questions whether there be a Sun, a Moon, or any such thing as Matter; yet no Man could ever doubt, as *St. Austin* affirms, whether he be, whether he think, or whether he live. For whether he be asleep or awake, whether in or out of his Wits, whether he be deceived or not deceived, it is certain at least, that (since he thinks) he both *is* and *lives*, it being impossible to separate *Being* and *Life* from Thought, and to believe that he who thinks, neither *is* nor *lives*. So that from this clear, certain, and unquestionable Knowledge, may be drawn a Rule, whereby to approve all those Thoughts, as true, which appear to a Man as clear as this does.

It is impossible also to doubt of the Perceptions of the Senses, by separateting them from their Object. For whether there be a Sun, or an Earth, or no; certain it is, that I imagine I see one. I am certain, that I doubt, while I doubt; that I believe I see, when I believe I see; that I believe I hear, when I believe I hear; and so on: And therefore not extending our Thoughts beyond those Things which are acted in the Mind it self, and considering what is only done there, we shall find there an infinite number of clear Notices, of which it is impossible to doubt. This consideration may serve to decide another Question, which uses to be proposed upon this Subject; namely, whether those Things that are only perceived by the Mind, are more or less certain, than those things which we understand by the Senses? For it is clear by what

we

we h  
cepti  
tion  
ever  
Sense  
Thin  
have  
from  
by wh  
ought  
must  
affirm  
to dis  
Mind,  
the A  
of no  
which  
we can

For  
one Bo  
certain  
Body;  
confide  
exterior  
it is, t  
Measu  
bigness  
our E  
precise  
jects w  
ing Gla  
them, d  
true M  
the ab

Neit  
of the  
two Pe  
Body d



we have said, that we are more assured of our Perceptions and Ideas (which we only see by the Reflection of our Minds) than we are of any Object whatever of our Senses. We may also say, that though our Senses do not always deceive us in the Report of Things, which they make us, yet that the Assurance we have that they do not deceive us, does not proceed from our Senses but from a Reflection of the Mind, by which we discern, when we ought, and when we ought not to believe our Senses. And therefore we must acknowledge, that St. *Auslin*, after *Plato*, rightly affirmed that the Judgment of Truth, and the Rule to discern it, belongs not to the Senses, but to the Mind, *non est Judicium Veritatis in Sensibus*; and that the Assurance to be depended on from the Senses, is of no large extent, and that there are many things which we believe we know by the Senses, of which we cannot say that we have any absolute certainty.

For Example, we may know by the Senses, that one Body is bigger than another; but we cannot know certainly what is the true and natural bigness of every Body; for the Manifestation of which, we are only to consider, that if all the World had never looked upon exterior Objects but with Magnifying Glasses, certain it is, they would not have fancied those Bodies, and Measures of Bodies, otherwise than according to the bigness represented by the Magnifying Glasses. Now our Eyes are Magnifying Glasses, and we know not precisely, whether they diminish or enlarge the Objects which we see; or whether the artificial Magnifying Glasses which we believe to augment or diminish them, do not rather represent them according to their true Magnitude. So that we do not certainly know the absolute and natural Bigness of any Body.

Neither do we know whether we see Things to be of the same Dimensions as other Men do. For though two Persons in Measuring agree together, that such a Body does not contain above five Foot; yet, perhaps,

that which one Man conceives by one Foot, is not what another means by the same Measure. For one conceives what is represented to him by his Eyes; and so does the other: Yet it may be, the Eyes of one Person do not represent the same thing, which the other Man's Eyes do; in regard their Eyes may be like Glasses variously ground.

However there is much probability that this difference is not very great; because we do not see any difference in the Structure of the Eye, able to produce a change so remarkable; for though our Eyes are Glasses, yet they are Glasses cut by the Hand of God, and so we have reason to believe that they represent the truth of Objects, except where there are some Defects, which alter and deprave the natural Figure.

Be this as it will, though the Judgment of the size of Objects be in some degree uncertain, we must not conclude that there is no more Certainty in any other Reports of the Senses. For albeit I do not know precisely what is the absolute and natural bigness of an Elephant; yet I know, that an Elephant is bigger than a Horse, and less than a Whale, which is sufficient for the uses of Life.

Therefore there is both Certainty and Uncertainty both in the Mind and in the Senses; and it would be an equal mistake to look upon all Things to be either certain or uncertain.

Reason on the contrary proposes three Things to us to be observed here.

For there are some Things to be known clearly and certainly. There are other Things, the Truth of which we do not yet clearly and evidently understand but which we may hope to understand hereafter. And there are other Things, which 'tis impossible we should understand with Certainty; either, because we are ignorant of the Principles that lead us to the Truth, or because they are above the reach of our Understanding.

The

Th  
Demo  
Th  
Study  
their  
third  
to wh  
which  
Th  
Know  
that v  
tional  
tions y  
it wor  
Bound  
whate  
ing be  
finity  
Thoug  
Hen  
shorte  
there  
Men a  
they c  
ledge  
Is it po  
Eterni  
a Mov  
nite in  
He tha  
it, may  
Momen  
ty Yea  
rence b  
day an  
danger  
which  
knows

The first sort comprehends all that we know, by Demonstration or Understanding.

The second, is the Subject of the Philosopher's Study: But it may easily happen that they may lose their Time, if they cannot distinguish this from the third sort, namely, if they cannot discern those Things to which the Mind may attain, from those other things which it is not capable to apprehend.

The most compendious way to the full extent of Knowledge, is, not to toil our selves in the Search of that which is above us, and which we can never rationally expect to comprehend. Such are those Questions which relate to the Omnipotency of God, which it would be ridiculous to confine within the narrow Bounds of our Understandings; and generally as to whatever partakes of Infinity. For our Understanding being finite, loses it self in the Labyrinth of Infinity; and lies overwhelmed under the Multitude of Thoughts contradicting one another.

Hence may be drawn the most convenient, and shortest Solution of many Questions, about which there will be no End of Disputing, so long as Men are infected with the Itch of Dispute, in regard they can never be able to arrive at any certain Knowledge whereby to assure and fix the Understanding. Is it possible any Creature should be created from Eternity? Can God make a Body infinite in Quantity; a Movement infinite in Swiftmess; a Multitude infinite in Number? Is Number infinite, Even or Odd? He that should answer once for all, I know nothing of it, may be said to have made as fair a Progress in a Moment, as he that had been beating his Brain twenty Years about those Niceties. The only difference between these Persons, is, that he that drudges day and night about these Questions, is in the greatest danger of falling a degree lower than bare Ignorance; which is to believe that he knows that which he knows not at all.

There are also an infinite number of Metaphysical Questions, which being too loose, too abstracted, and too remote from Principles clearly known, can never be resolv'd: So that the surest way he has, is for a Man to rid himself of them the soonest he can, and after he has read what has been said of them, to resolve to unlearn it again.

*Nescire quædam magna pars sapientiæ.*

By which means ridding our selves of vain and useless Scrutinies, we shall be the more able to make a fairer Progress in such things as are more proportionable to our Understanding s.

But we are to understand that there are some things which are incomprehensible in their Manner, yet certain in their Existence; we cannot comprehend how they are, however it is certain they are.

What is more in comprehensible than Eternity? and yet at the same time what is more certain? in so much that they, who thro' a horrible Blindness have defaced in their Minds the Knowledge of God, are constrain'd to attribute it to the vilest and most contemptible of *Beings*, which is *Matter*.

How can we comprehend, that the smallest Atom of *Matter* is divisible to infinity, and that we can never come to so small a Part, that does not only inclose several others, but also an Infinity of other Parts? that a small Grain of Wheat encloses in it self as many Parts (tho' lesser in Proportion) as the whole World? That all imaginable Figures are actually there to be found, and that it contains a little World in it self, with all its Parts; a Sun, a Heaven, Stars, Planets, and an Earth, in a most admirable Correspondency of Proportion? And that there is not any the least Part of this Grain, but what likewise contains another little World? What can that Part of this little World be, which answers to the Bigness of a grain of Wheat? and what a stupendous Exiguity must that be, of which we may truly say, that it is such in respect of a Grain

a Grain  
the wh  
incomp  
nable V  
Part, w  
nal Par

Thes  
they m  
demonf  
try furn  
she disc

For t  
which h  
son are c  
Square a  
Sides we  
sible Par  
the com  
sequence  
should b  
Parts.

Second  
impossibl  
another S  
for an ex  
Square.  
certain n  
contain d  
ing Squa  
to anothe

Lastly,  
Nothing  
that ever  
two of th  
sible, I de  
they have  
Parts; if  
Extent, an



a Grain of Wheat, as a Grain of Wheat is compar'd with the whole World? Nevertheless this Part, which is so incomprehensible to us, contains another proportionable World, and so *ad infinitum*; there being still no Part, which does not comprehend as many proportional Parts as the World, how large soever we make it.

These things are above conception; yet necessarily they must be so, because the Divisibility of Matter is demonstrable, as appears by the Proofs which Geometry furnishes us with, as clear as any Truths which she discovers to us.

For this Science shews us, that there are some Lines which have no common Measure, which for that reason are called incommensurable, as the Diagonal of a Square and the Sides. Now if this Diagonal and Sides were compos'd of a certain Number of indivisible Parts, one of these indivisible Parts would be the common Measure of those two Lines, and by consequence it would be impossible that those two Lines should be compos'd of a certain number of indivisible Parts.

*Secondly*, The same Science teaches us, that it is impossible that a Square Number should be double another Square Number; and yet it is very possible for an extended Square to be double another extended Square. Now if these two Squares were compos'd of a certain number of finite Parts, the great Square would contain double as many Parts as the less, and both being Square, there would be a Square Number double to another Square Number, which is impossible.

*Lastly*, There is nothing more clear, than that two Nothings of Extent cannot form an Extent, and that every Extent or *Quantum* has Parts. Now taking two of these Parts, which are suppos'd to be indivisible, I demand whether they have Extent or no? If they have, then they are divisible, and have several Parts; if they have not, then they are Nothings of Extent, and so it is impossible they can form an Extent.

We



We must renounce all humane Assurance to doubt of the Verity of these Demonstrations; but for the better apprehending this infinite Divisibility of Matter, I will add one more Proof, which shews us at the same time a Division *ad infinitum*, and a Motion that slackens *ad infinitum*, yet never arrives at Rest.

Certain it is, that tho' it should be doubted whether extent may be divided to infinity, it is unquestionable that it may be enlarg'd to Infinity; and that to a plain of a hundred thousand Leagues may be added a plain of a hundred thousand Leagues, and so *ad infinitum*. Now this infinite Augmentation of Extent proves its infinite Divisibility. For proof of which there needs no more than to suppose a plain Sea, which is augmented to Infinity, together with a Ship sailing from some Port of that Sea, in a direct Line. Certain it is that the Radius, that shall come from the bottom of the Ship, to the Eye of the Person looking from that Part, thro' a Glass or transparent Body, shall pass thro' a certain Point of the Glass; and the Horizontal Radius shall pass thro' another Point of the Glass more elevated. Now as the Vessel makes sail, the Point of the Radius, that terminates at the bottom of the Ship, shall always mount, and infinitely divide the Space between the two Points; and the farther the Vessel moves off, the slower it will ascend, without ever ceasing to ascend, or ever being able to touch the Point of the Horizontal Radius, because these two Lines intersecting each other in the Eye, can never be parallel, nor the same Line.

Which Example at the same time affords a Proof of the infinite Divisibility of an Extent, and a slackening of Motion to Infinity.

By this infinite Diminution of Extent, which arises from its Divisibility, may be prov'd these Problems that seem impossible in their Terms. To find an infinite Space equal to a finite, or which is no more than

half or  
mong  
tho' no  
the hal  
halts b  
a Super  
dimin  
will be  
the hal  
so *ad in*  
third o  
*ad infinitum*  
the sam  
the four  
produce  
the Are  
shall be  
in Breac

The  
lations i  
which is  
of our U  
in spite  
which w  
fore 'tis  
about th  
sumption  
against th  
der pret  
For se  
to succu  
tess, that  
apprehen  
Sin again  
Effects of  
comprehe  
Appreher

half or a third part of a finite space, &c, Of which among many other Solutions here is one, very easy, tho' not so polite. Take the half of a Square, and the half of that, and so *ad infinitum*, and join all these halts by their longest Line; the consequence will be a Superficies of an irregular Figure, and which will diminish *ad infinitum*, at one of the Ends, but which will be equal to the whole Square. For the half, and the half of the half, the half of the second half, and so *ad infinitum*, make the whole. The third, and the third of third, and the third of the new third, and so *ad infinitum*, make the half. The fourths, taken after the same manner, make the third part; and the fifths the fourth. Which joining together at the Ends, will produce a Figure containing a half or a third part of the Area of the whole, and which on the one side shall be infinite in length, diminishing proportionably in Breadth.

The Advantage that may be made of these Speculations is not only the bare Knowledge of these things which is barren enough; but to teach us the Limits of our Understandings, and to make us acknowledge, in spite of our selves, that there are certain things which we are not capable to apprehend: And therefore 'tis profitable in some measure to take pains about these Niceties, were it only to tame our Presumption, in opposing our feeble Apprehensions against the Truths which the Church propounds, under pretence that we cannot apprehend them.

For seeing that the Vigour of human Wit is forc'd to succumb to the least Atom of Matter, and to confess, that it clearly sees it is divisible to Infinity, not apprehending how it can be done; is it not visibly a Sin against Reason to refuse to believe the marvellous Effects of God's Omnipotence, which is of it self incomprehensible; and only because it is above our Apprehension?

But

But as it is possible for a Man to make himself sometimes sensible of the Weakness of his own Understanding. by the Consideration of those Objects which are above it; it is also certain that he ought to make choice of Subjects and Matters, for his more general Study, which are within the reach of his Capacity, the Truth of which he may be able to find out and comprehend, whether by proving the Effects by the Causes, which is call'd *Demonstration a priori* or by demonstrating the Causes by the Effects, which is call'd *Demonstration a posteriori*. The Signification of the Terms must be a little dilated, to the End that under them all sorts of Demonstrations may be reduc'd: But here it was proper to give a hint of them by the by, that they be understood, and not seem uncouth to us, when we meet with them in the Writings and Discourses of Philosophy; and because Arguments of this nature are compos'd of several Parts, it is requisite for the rendring them more clear and conclusive, to dispose them in a certain Order and Method, of which Method it is we shall discourse in the greatest part of this Book.

\*\*\*\*\*

## CH A P. II:

*Of the two sorts of Method, Analysis and Synthesis.  
An Example of Analysis.*

**M**E T H O D may be generally call'd, *The Art of well disposing a series of several Thoughts, either to discover a Truth we are ignorant of, or to prove to others a Truth we know.*

Thus there are two sorts of Methods; the one to discover the Truth, which is call'd *Analysis*, or the *Method of unfolding*, and which may be also call'd the *Method of Invention*; and the other to make it under-

stood b  
Synthesi  
call'd t

The  
analytica  
some \*

Now  
Things,

I call,  
such wh  
things o  
deavour  
an Auth

Qu-est  
several S

for by th  
ous Effe

search fo  
which ar

Vacuum:  
and we f

flows, an  
regular a

The se  
Gaufes.

Water ha  
Antients

be the Ef  
has been

many thi  
human I

fruit of P

\* The g  
Questions

Des Cartes  
stood  
to lend me.

flood by others when it is found out, which is call'd *Synthesis*, or the *Method of Composition*, and may also be call'd the *Method of Doctrine*.

The entire Body of any Science is seldom handled *analytically*, *Analysis* being only made use of to resolve some \* Question.

Now all Questions are either about Words, or Things,

I call, in this place, Questions about Words, not such which investigate Words, but which search things out of the Words themselves; as when we endeavour to find out the Meaning of a Riddle; or what an Author means by obscure and ambiguous Words.

Questions about Things may be reduc'd under four several Species. The first, when we seek for the Causes by the Effects. For example, we know the various Effects of the Loadstone, and by their Assistance search for the Cause. We know the various Effects which are usually attributed to the Abhorrency of a *Vacuum*: We search whether that be the true Cause, and we find it is not. We know the Sea ebbs and flows, and we seek for the true Cause of so great and regular a Motion.

\*\*\* The second is, when we seek for Effects by the Causes. For example, we find that the Wind and Water have a great Force to move Bodies: But the Antients not having sufficiently examin'd what might be the Effects of those Causes, never apply'd them, as has been since done in the way of Mills, to a great many things which benefit Mankind, and greatly ease human Labour, which ought to have been the true fruit of Physical Study. So that it may be said, the first

---

\* The greatest part of what is here discours'd concerning Questions, was taken from a Manuscript of the deceased Des Cartes, which Monsieur Clercelier did me the favour to lend me.



first sort of Questions, whereby we seek the Causes by the Effects, include the speculative Part of Physics; and the second Part, that seeks for the Effects by the Causes, contains the practical Part.

The third sort of Question is, when we seek for the Knowledge of the whole by the Parts; as, when we have many Numbers, we seek for the Sum by Addition or Multiplication.

The fourth is, when, having the whole and some Part, we seek for the other Part; as, when we know a certain Number, and what is subtracted from it, we seek to find what remains; or, as when we seek to know what will be *so much* of a given Number.

But here is to be observ'd, that for the further Extent of these two sorts of Questions, and that they may comprehend what cannot be properly referr'd to the former, the Word *Part* is to be taken more generally for all that comprehends a thing; its *Modes*, its *Extremities*, its *Accidents*, its *Proprieties*, and generally all its *Attributes*. So that he may be said to seek the Whole by its Parts, who seeks to find out the Area of a Triangle by its Height and Basis: And he may be said to seek a Part by the Whole and another Part, who seeks to find out the Side of a Rectangle by the Knowledge he has of the Area and one of the Sides.

Now whatever be the Nature of the Question propos'd, the first thing is to conceive clearly and distinctly what is the precise Point of the Question.

For the Error of many is to be avoided, who, out of Heat and Precipitancy, are ready with their Answers before they rightly understand by what Circumstances and Marks by which to know what is propounded, in case they find it. Like a Servant, that being commanded to go for one of his Master's Acquaintance, runs away in haste before he knew particularly from his Master who that Friend is.

Now

Now a  
known, e  
neverthe  
out and  
mine us t  
and cause  
out, that

And th  
fore-hanc  
Condition  
propound  
For both

As for  
demande  
four Feet  
three in t  
bound to  
ing, in the  
Propound  
tion, and  
ply'd by a  
Riddle w  
Creature i

Let us  
the Statue  
a Column  
Man stoop  
the Water  
but sank d  
Lips? We  
would be  
and troubl  
Secret in t  
to sink dov  
nothing of  
be rightly  
gine a Vess  
and which



Now albeit there is in all Questions something unknown, else there wou'd never be any thing to seek, nevertheless that which is unknown must be marked out and design'd by certain Conditions, which determine us to search out one thing rather than another, and cause us to understand, when we have found it out, that is the thing which we seek after.

And these Conditions we are well to consider before-hand, with great Care, lest we add any other Conditions than what is inclos'd within the thing propounded, or omit any which is therein included: For both ways a Man may commit a manifest Error.

As for example; in the first manner, if it shou'd be demanded of us, what Creature is it that goes upon four Feet in the Morning, upon two at Noon, and three in the Evening, we should err to think our selves bound to take these Words, *Feet, Morning, Noon, Evening*, in the proper and genuine Signification: For the Propounder of the *Enigma* requires no such Condition, and therefore 'tis sufficient that they may be apply'd by a Metaphor to some other thing; and so the Riddle will be well resolv'd by saying, that same Creature is a Man.

Let us likewise suppose the Question to be, how the Statue of *Tantalus* could be made, who lying upon a Column in the midst of a Vase, in the Posture of a Man stooping down to drink, could not do it, because the Water in the *Vase* might ascend up to his Mouth, but sank down again so soon as it began to touch his Lips? We should err in adding such Conditions, that would be of no use to the Solution of the Question, and trouble our Brains to find out some wonderful Secret in the Statue of *Tantalus*, that caus'd the Water to sink down so soon as it approach'd his Lips; for nothing of that is included in the Question. And if it be rightly conceiv'd, it may be sufficient that we imagine a Vessel made to contain Water to such a height and which empties again, if it be fill'd above such a Mark;

Mark ; which is easy to be done by concealing a private Pipe in the Column, of which one Branch admits the Water into the *Vase*, will stay till it come to the top of the *Syphon* or Pipe, but being fill'd up to the top of the Pipe, away it flies again thro' the longer Branch of the Pipe that hangs down below the *Vase*.

The Question also may be put, what Secret that same Water-drinker had, who shew'd his Tricks at *Paris* about twenty Years since ? and how, by vomiting only Water out of his Mouth, he cou'd fill at the same time five or six several Glasses with Waters of different Colours ? If any one believe that these Waters of different Colours were in his Stomach, and that he made a Separation there as he threw them up into the several Glasses ; that Person will hunt after a Secret never to be found, because it is an Impossibility: And therefore he is only to ask, why the Water coming out of one and the same Mouth, at one and the same time, appear'd to be of divers Colours in every one of the Glasses ? Which it is very probable, was occasion'd by some Tincture which the Mountebank put at the bottom of the Glasses.

'Tis the Cunning also of those which propound Questions, which they would not have easily resolv'd to environ and cloud the thing which is to be resolv'd with so many frivolous Conditions, which signify nothing to the Solution of the Question, on purpose to prevent the discovery of the true Point of the thing propounded ; and so we lose time, and beat our Brains to no purpose, about things that contribute nothing to the discovery of the thing demanded to be resolv'd.

The other manner of erring in the Examination of Marks and Circumstances of the thing which we search for, is, when we omit what is most essential to the Question propounded, For Example, we propose to find out the perpetual Motion by *Art*. For we know well that there are perpetual Motions in

Nature

Nature, a  
There are  
its Center  
stone of v  
perties, b  
as to turn  
bring to p  
out the pe  
Motions v  
pos'd to t  
Theref  
circumstance  
Question,  
for thereb  
is unknow  
to find o  
Minds are  
known, th  
manner w  
know. F  
Birth, we  
out Argum  
true Ideas  
Senses. A  
dies whos  
were new  
standing c  
for ever to  
sons or Ar  
another U  
fore we ar  
that can b  
distinctly f  
are known  
are known  
Now it  
Question b  
it being ou

*Nature*, as those of Fountains, Rivers and Stars. There are some who, believing the Earth turns upon its Center, and that it is nothing but a great Loadstone of which the common Magnet as all the Properties, believe also that a Magnet may be so order'd, as to turn about circularly: Which tho' they could bring to pass, yet would it nothing contribute to find out the perpetual Motion by Art; in regard that other Motions would be as natural, as that of a Wheel expos'd to the Current of a River.

Therefore, when we have well examin'd the Circumstances that mark out what is unknown in the Question, we are next to examine what is known; for thereby we shall come to the knowledge of what is unknown. For we are not to imagine, that we are to find out a new Genus of things, in regard our Minds are no farther capable to find out things unknown, than as they participate after such and such a manner with the Nature of those things which we know. For Example, if a Man were blind from his Birth, we should perplex our selves in vain, to seek out Arguments and Proofs to make him sensible of the true *Ideas* of Colours, such as we have by means of our Senses. And if the Loadstone, and those other Bodies whose Nature we are inquisitive to find out, were new *Genus's* of *Beings*, and such that our Understanding could not conceive the like we might despair for ever to attain to the Knowledge of them by Reasons or Arguments; but we should stand in need of another Understanding than our own. And therefore we are to believe, that we have found out all that can be found by humane Wit, could we conceive distinctly such a Mixture of *Beings* and *Natures* (which are known to us) as could produce those Effects which are known to us in the Loadstone.

Now it is in our Attention to what is known in the Question before us, that the *Analysis* chiefly consists; it being our main Business to draw from that Examination

many Truths, that may lead us to the Knowledge of what we seek.

As if the Question were, *Whether the Soul be Immortal?* And to find it out we apply our selves to consider the Nature of our Soul. We observe, in the first place. that it is the Propriety of the Soul to think, and that it may doubt of all things else without doubting whether it think or no, in regard the Doubt itself is a Thought. After this we examine what it is to think, and not finding that what the *Idea* of Thought includes, is any thing that is included in the *Idea* of extended Substance (which is call'd a *Body*) and that we may deny of Thought whatever belongs to a *Body*, as to be *long, broad, deep, to have Diversity of Parts, to be of such or such a Figure, to be divisible, &c.* without thereby destroying the *Idea* which we have of Thought; we conclude that Thought is no manner of extended Substance; because it is of the nature of a Manner that cannot be conceiv'd, if the thing be denied of it whose Mode it is. Whence we infer, that Thought being no Manner of extended Substance, it must be the Attribute of some other Substance; and so the Substance that thinks, and the extended Substance, must be two Substances really distinct. Whence it follows, that the Destruction of the one does not way argue the Destruction of the other, since even extended Substance is not properly destroy'd, but all that happens in that which we call Destruction, is nothing else but a Change or Dissolution of some Parts of Matter, which remains always in Nature; as we rightly judge, that in breaking the Wheels of a Clock, the Substance of the Clock is not destroy'd, tho' we say the Clock is destroy'd, Which shews, that the Soul not being divisible, or compos'd of any parts, cannot perish, and by consequence is immortal.

This is that which is call'd *Analysis* or *Resolution* where you are to observe:

1. That

1. T  
Method  
to that  
Method  
2. T  
this, th  
ticular  
underst  
Method  
ple, we  
Substan  
call De  
that the  
stroy'd,  
general  
3. Tha  
but as w  
as in S  
hereafter  
Lastly  
that lead  
that wh  
Valley:  
such a Pe  
the one v  
one to hi  
he the S  
The othe  
he had su  
come to t  
And this  
because it  
scure Ped  
Father: W  
is already  
the Stock  
were that  
tis'd in th



1. That we ought to take our Progress, as in the Method of *Composition*, from that which is most known; to that which is least known: For there is no true Method that can dispense with this Rule.

2. That it differs from the Method of *Composition* in this, that we consider those known Truths in the particular Examination of the thing which we propose to understand, and not in things more general, as in the Method of Doctrine. Thus in the foregoing Example, we do not begin with general Maxims, that no Substance, to speak properly, perishes; that what we call Destruction, is only a Dissolution of the parts; that therefore whatsoever has no parts, cannot be destroy'd, &c. But we mount up by Degrees to those general Rules.

3. That we never propose clear and evident Maxims, but as we have occasion to make use of them; whereas in Synthesis, we settle those first, as we shall shew hereafter.

Lastly; These two Methods differ only, as the Way that leads from a Vally to a Mountain, differs from that which leads from the top of the Mountain to a Valley: Or as the two Manners differ to prove, that such a Person is descended from St. Lewis; of which the one way is to shew, that such a Person had such a one to his Father, who was the Son of such a one, and he the Son of such a one, and so down to St. Lewis. The other, to begin from St. Lewis, and to shew, that he had such Children, those Children others, till they come to the last Descent, who is the Person intended. And this Example is the more proper on this occasion, because it is the most certain way to find out an obscure Pedigree, by going back from the Son to the Father: Whereas for the Instruction of others, that it is already found, the most usual way is to begin from the Stock, the more easily to demonstrate who they were that descended from it. Which is usually practis'd in the Sciences, where, after we have made use of

*Analysis*

*Analysis* to find out some Truths we apply ourselves to the other Method to explain what we have found out.

By this we may understand what is the *Analysis* of the Geometricians, which consists in this: A Question being propounded to them which they know not whether it be true or false, if it be a *Theorem*; or if a Problem, whether it be possible or impossible. They suppose it to be as it is propos'd, and examining what will follow from thence, if upon that Examination they light upon evident Truth, of which that which is propos'd is a necessary Consequence; they conclude from thence, that the thing propos'd is true. Then beginning again where they left off, they demonstrate it by the other method of *Composition*: But if through necessary Inferences they fall into Absurdity or Impossibility, they conclude the thing propos'd to be false and impossible.

This is what may be generally said of *Analysis*, which consists more in Judgment and Dexterity of Wit, than in particular Rules. Nevertheless, these four which Monsieur *Des Cartes* propos'd in his Method, may be beneficial to a Man to guard himself from erring in the search of Truth relating to Humane Sciences, though indeed they may be generally apply'd to all sorts of Methods, and not particularly only to *Analysis*.

The first is, never to receive any thing for Truth, which is not known to be evidently such; that is, carefully to avoid Precipitation and Prejudice; and not to comprehend any thing more in a Man's Judgment than what presents it self clearly to the Understanding, and which is altogether absolutely unquestionable.

2. To divide the Difficulties that are under examination, into as many Parts and Parcels as he can, and are requisite for their Solution.

3. To conduct his Thoughts in order, by beginning

from  
he ma  
things  
posing  
not na

4. 7  
views

omitted

Truth

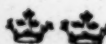
these F

in mind

that lie

Truth

derstan



Of the I

W H

ha

of Comp

ing that

all the S

This M

things th

the less g

we shun

treat of S

to underf

stand the

times exp

planation

from Objects the most simple and easy to know, that he may be able to rise by degrees to the Knowledge of things more difficult and compounded; and by supposing a certain Order among these things, which do not naturally precede one another.

4. To number his Mediums, and make his Reviews so exactly, that he may be assured of not having omitted the least Particle.

True it is, that it is a very difficult thing to observe these Rules; but it is always necessary to bear them in mind, and to observe them with all the exactness that lies in a Man's Power, when he wou'd find out Truth by the way of Reason, and as far as our Understanding is capable to reach.



### C H A P. III.

*Of the Method of Composition, and particularly that which is observ'd by the Geometricians.*

**W**HAT we have said in the foregoing Chapter, has already given us some *Idea* of the Method of Composition, which is the most important, as being that which we make use of in the Explanation of all the Sciences.

This Method consists principally in beginning from things the most simple and general, and ascending to the less general and more compounded. By this means we shun ungrateful Repetitions; for shou'd we be to treat of Species before Genus's, since it is impossible to understand the Species rightly before we understand the Genus, there wou'd be a necessity of several times explaining the Nature of the Genus in the Explanation of every Species.

S

There

There are many things also to be observ'd, to render this Method perfect and proper for obtaining the propos'd end; which is, to give us a clear and distinct Knowledge of the Truth.

But because general Precepts are more difficult to understand, when they are abstracted from all manner of Matter; we will consider the Method of the *Geometricians*, as being that which we have always thought most proper to convince us of the Truth. And First, We shall shew what is to be commended in this Method. And Secondly, What it has defective.

It being the chief aim of the *Geometricians* to advance nothing but what is truly convincing; they are of opinion, they might attain their ends by observing three things in general.

1. Not to suffer any *Ambiguity in their Terms*; against which, they have provided by Definitions of Words, as we have before observ'd.

2. Not to ground their Arguments but upon clear and evident Principles; and which can never be question'd by any Person of Understanding. For which reason, they first of all lay down their Axioms, which they require shou'd be granted them, as being so clear, that they wou'd be but obscur'd by going about to prove them.

3. To prove demonstratively all the Conclusions they advance, by the help of settled Definitions, Principles granted them as being most evident, or Propositions which they have already drawn by the force of Reasoning and which after that become so many Principles.

So that we may reduce to these three Heads, whatever the *Geometricians* observe to convince the Understanding, and include the whole in these five Rules of great Importance.

#### Necessary RULES for DEFINITIONS.

1. Not to leave any thing in the Terms obscure, or equivocal, without defining it.

2. To

2. To  
ready ex

3. To  
clear an

4. To  
by the be  
ded, or l  
struction  
tion to be

5. Na  
least men  
explain t

The  
have the  
and invi  
Observa  
making  
Sciences  
thing, w  
fitable t

\*\*\*

A more  
and

T Hou  
nefici  
it is of  
much in  
great nu  
nothing  
take in



2. To make use of none but Terms perfectly known, or already explain'd.

FOR AXIOMS.

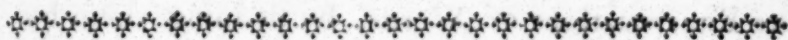
3. To demand in Axioms nothing but what is perfectly clear and evident.

FOR DEMONSTRATIONS.

4. To prove all Propositions that are any thing obscure, by the help only of preceding Propositions, or Axioms conceded, or Propositions already demonstrated, or by the Construction of the thing in Question, when there is any Operation to be made.

5. Never to abuse the Ambiguity of Terms, by failing at least mentally to substitute those Definitions that restrain and explain them:

These are the Rules which the Geometricians have thought necessary to render their Proofs cogent and invincible. And we must confess, that a diligent Observation of these Rules is sufficient to avoid the making of false Arguments while we treat of the Sciences: Which without doubt is the principal thing, when all the rest may be said to be rather profitable than necessary.



CHAP. IV.

*A more particular Explication of the foregoing Rules; and first, Of those that relate to Definitions.*

THOUGH we have declar'd in the first Part, the Benefit of the Definition of Terms, nevertheless it is of that importance, that we cannot bear it too much in mind, in regard that thereby we unravel a great number of Questions which often turn upon nothing but the Ambiguity of Terms, which some take in some sense, some in another. Insomuch, that

very great Contests wou'd cease in a moment, if either of the Disputants did but take care to define clearly, and in few Words, what he means by the Terms which are the Subject of the Dispute.

*Cicero* has observ'd, that the greatest part of the Disputes between the ancient Philosophers, especially the *Stoics* and *Academics*, were founded only on this Ambiguity of Words; The *Stoics*, to exalt themselves, taking the Terms of Morality in Senses quite different from others. Which made Men believe, that their *Morals*, were much more severe, and more perfect; though, indeed, that pretended Perfection was only in Words, and not in things; the *Stoic Wise Man* no less indulging himself to the Pleasures of Life than the Philosophers of other Sects, that seem'd not so rigid. Nor did he with less care avoid the Inconveniencies of Life, only with this Difference; that whereas other Philosophers made use of the ordinary Words *Good* and *Evil*, the *Stoics* call'd the Pleasures which they enjoy'd not by the name of *Good*, but *things to be preferr'd*; and the Evils which they shun'd not by the name of *Evil*, but *things to be avoided*.

And therefore 'tis absolutely requisite to retrench from all Disputes, whatever is founded solely upon the Equivocations of Words, by defining them by other Words so clearly understood, that there can be no Fault found, or Exception taken.

To which purpose, serves the first of the foregoing Rules, *To leave nothing in the Terms obscure or equivocal without defining it*. But that we may be able to make the best of these Definitions, we are to add the second Rule, *To make use of none but Terms perfectly known or already explain'd*: That is to say, Terms that designate as clearly as may be, the *Idea* which we mean by the Word that we define.

For so long as we have not clearly and distinctly enough set forth the *Idea* to which we wou'd affix a Word, it is almost impossible to avoid sliding into another

ther  
that is  
tally  
same  
with  
discov  
the pl  
make  
there  
otherw

This  
did de  
two rig  
sider t  
so that  
stript  
two Lin  
is law  
meeting  
himself  
that Se  
time th  
to the  
of it; a  
found  
Angle,  
the sam  
insensib  
ture.  
in two  
that it  
in two  
has two  
the spa  
with th

It is v  
hindere  
compre

ther *Idea* different from that which was designated ; that is to say, but that instead of substituting mentally (every time we make use of that Word) the same *Idea* that was design'd, we substitute another with which Nature furnishes us. Which is easily discover'd by substituting expressly the Definition in the place of the thing defin'd. For this ought to make no manner of Change in the Proposition, if there has been a Constancy to the same *Idea* ; whereas otherwise there will be an apparent Change.

This will be better understood by Examples: *Euclid* defines a plain Rectilineal Angle, *The meeting of two right Lines inclin'd upon the same Plane*. If we consider this Definition as a bare Definition of the Word, so that we are to look upon the Word *Angle*, as being stript of all Signification, but that of the *meeting of two Lines*, we have no Reason to blame *Euclid*. For it is lawful for *Euclid* to signify by the Word *Angle* the meeting of two Lines. But he is bound to remember himself, and not to use the Word *Angle* but only in that Sense. Now to try whether he has done it every time that he speaks of an *Angle*, we are to substitute to the Word *Angle* the Definition which he has given of it ; and if, in substituting this Definition, there be found any Absurdity in what he says concerning an *Angle*, it will follow that he has not been constant to the same *Idea* which he had design'd ; but that he is insensibly fallen into another, which is that of Nature. For Example, he teaches us to divide an *Angle* in two ; substitute his Definition, and you shall find that it is not the meeting of two Lines that is divided in two ; that it is not the meeting of two Lines that has two sides and a Base, but that all this agrees with the space comprehended between two Lines, and not with the meeting of two Lines.

It is visible that that which puzzl'd *Euclid*, and hindered him from defining an *Angle* to be a Space comprehended between two Lines that meet, was  
this

this; that he found that Space might be larger or less, as the sides of the Angle were longer or shorter; and yet the Angle not be less or bigger. Nevertheless, he ought not to have concluded from hence, that a Rectilineal Angle was not a space, but only that it was a Space comprehended between two right Lines that meet, indetermin'd in respect of one of the two Dimensions that Answer to the length of the Lines, and determin'd according to the other, by the proportional Part of a Circumference, which has for its Center the Point where the Lines meet.

This Definition defines so clearly the *Idea* which all Men have of an Angle. that it is both a Definition of the Word, and of the thing; only that the Word Angle comprehends also in common Discourse a solid Angle, whereas by this Discourse it is restrain'd to signify a plain Rectilineal Angle.

And when we have thus defin'd the Angle, 'tis unquestionable that whatever afterwards can be said of a plain Rectilineal Angle, such as is found in all Rectilineal Figures, shall be true of this Angle thus defin'd, without being oblig'd to change the *Idea*; how will any Absurdity follow by substituting the Definition in the Place of the Thing defin'd? For Space thus explain'd, is what can be divided into two, three, or four. It has two Sides, between which it is comprehended; and on that Part which is indetermin'd often it self, it may be determin'd by a Line which is call'd the *Base* or *Subtensa*, Nor is this Space accounted greater or less for being comprehended between longer or shorter Lines; because being indetermin'd according to this Dimension, it is not from thence we are to take its Proportion. By this Definition we find out the way to judge, whether one Angle be equal to another, whether bigger or less. For the Bigness of this Space being only determin'd by the proportional Part of a Circumference, which has for its Center the Point where the Lines that compre-

hend

hend  
by lik  
Part, t  
ther b  
tenths  
the tw  
shou'd  
of two  
in his  
himself

Ano  
the sam  
lows:  
of the  
quantit

By t  
prehen  
Magnit  
the oth  
a Habit  
to quat  
will be  
ference  
ference  
there is  
clid, pr  
which h  
he has  
he is n  
Series o  
are not  
he has g  
For tha  
second,  
Habitue

Now  
ency, h  
Ways o



hend the Angle meet, when two Angles are measur'd by like aliquot Parts of their Circles, as the tenth Part, they are equal; if one by the tenth Part, the other by the twelfth; that which is measur'd by the tenth Part is bigger than that which is measur'd by the twelfth. Whereas by *Euclid's* Definition, we shou'd never understand wherein consists the Equality of two Angles: Which causes a horrible Confusion in his Elements, as *Ramus* has observ'd, though he himself was no less unfortunate in his Rectifications.

Another of *Euclid's* Definitions where he commits the same Fault as in that of the Angle, take as follows: *Reason*, says he, is a *Habitude of two Magnitudes of the same kind, compar'd one with another according to quantity*; *Proportion* is a *similitude of Reasons*.

By these Definitions the word *Reason* shou'd comprehend the *Habitude* which is between the two Magnitudes, when we consider how much one exceeds the other. For we cannot deny but this *Habitude* is a *Habitude of two Magnitudes, compar'd according to quantity*; and by consequence, four Magnitudes will be proportionable one to another, while the Difference between first and second, is equal to the Difference between the third and the fourth. So that there is nothing to be said to these Definitions of *Euclid*, provided he continue constant to those *Ideas* which he has design'd by these Words; and to which he has given the Names of *Reason* and *Proportion*. But he is not constant, for that according to the whole Series of his Book, these four Numbers, 3. 5. 8. 10, are not proportionable, though the Definition which he has given to the word *Proportion*, agrees with them. For that there is between the first Number and the second, compar'd together according to quantity, a *Habitude* like to that between the third and fourth.

Now to have avoided falling into this Inconvenience, he shou'd have observ'd, that there are two Ways of comparing two Magnitudes; one by considering

dering how far the one surpasses the other; and the second, by considering after what manner the one is contain'd in the other. And in regard these two Habitudes are different; he ought to have given them different Names, to the first the Name of *Difference*, to the second the Name of *Reason*. Afterwards he ought to have defin'd *Proportion*, the Equality of the one, or the other, of these two sorts of Habitudes, that is, of *Difference* or *Reason*: And as this makes two *Species*'s, to have distinguish'd them also by two several Names, calling the Equality of *Differences*, *Arithmetical Proportion*; and Equality of *Reasons*, *Geometrical Proportion*. And because the latter occurs much oftner than the former, the Readers are to be admonish'd, that when *Proportion*, or *Proportional Magnitudes*, are barely nam'd, it is to be understood of *Geometrical Proportion*; but for *Arithmetical Proportion*, it is never to be understood but when it is express'd. Which would have unvail'd all Obscurity, and taken away all Equivocation.

This shews us, that we are not to make an ill use of that Maxim, That the Definitions of Words are arbitrary. But that great heed is to be taken to design so clearly and exactly the *Idea*, to which we affix the Word that is to be defin'd, that we may not be deceiv'd in the Series of the Discourse by changing that *Idea*, i. e. by taking the Word in another Sense than that which is given it by the Definition.

\*\*\*\*\*

## CHAP. V.

*That the Geometricians seem not to have rightly understood the Difference between the Definitions of Words and Things.*

ALTHO' there are not any Writers, who make a better use of the Definitions of Words, than the Geome-

Geom  
have n  
the De  
the fir  
verted  
Defini  
were d  
Th  
Euclid  
letier an  
gent an  
Clavius  
that al  
deman  
Angle?

We  
cian to  
to be, 2  
thing;  
those w  
with an  
as if he  
that he  
importa  
ber, as  
have m  
ther of  
these tw  
Whether  
Number,  
he shou  
a Word  
according  
to Num  
Number,  
ther, it v  
in regar  
that it

Geometricians: yet I cannot but observe, that they have not rightly understood the Difference between the Definitions of *Things* and *Words*; which is, that the first are disputable, the second not be controverted: For I find some that raise Disputes about the Definitions of Words, with the same heat, as if they were disputing about the things themselves.

Thus we find in the *Commentaries* of *Clavius* upon *Euclid* a long Dispute, and mighty hot, between *Pelletier* and him, touching the Space between the Tangent and the Circumference, which *Pelletier* denies, *Clavius* affirm to be an Angle. Who does not see, that all this might be determin'd in one Word, by demanding of both, what they meant by the Word *Angle*?

We find also the famous *Simon Stevin*, Mathematician to the Prince of *Orange*, having defin'd Number to be, *That by which is explain'd the Quantity of every thing*; he puts himself into a pelting Chafe against those who will not have the *Unite* to be a Number, and with an Oratorical Vehemence exclaims against 'em as if he were upon some solid Argument. True it is, that he intermixes in his Discourse a Question of some importance; that is, whether a *Unite* be to a Number, as a Point is to a Line? But here he should have made a Distinction, to avoid the jumbling together of two very different Things. To which end these two Questions were to have been treated apart: *Whether a unite be a Number?* and, *Whether a Unite be to Number, as a Point is to a Line?* And then to the first he shou'd have said, that 'twas only a Dispute about a Word, and that a *Unite* was or was not a Number, according to the Definition which a Man would give to Number. That, according to *Euclid's* Definition of Number, Number is a Multitude of *Unites* assembled together, it was visible that a *Unite* was no Number; but in regard this Definition of *Euclid* was arbitrary, and that it was lawful to give another Definition of Num-

ber, *Number* might be defin'd as *Steven* defines it, according to which Definition a *Unite* is a *Number*: So that by what has been said the *first Question* is resolv'd, and there is nothing farther to be alledg'd against those that denied the *Unite* to be a *Number*, without a manifest begging of the *Question*, as we may see by examining the pretended Demonstration of *Steven*.

The first is,

*The Part is of the same nature with the whole;*

*The Unite is a Part of the Multitude of Unite:*

*Therefore the Unite is of the same nature with a Multitude of Unites, and consequently a Number.*

This Argument is of no Validity: For tho' the Part were always of the same nature with the whole, it does not follow that it ought always to have the same Name with the whole: nay, it often falls out that it has not the same Name. A Soldier is Part of an Army, and yet is no Army; a Chamber is Part of a House, and yet is no House? a half Circle is no Circle; a Part of a Square is no Square. The most this Argument therefore proves, is, that *Unite* being Part of a Multitude of *Unites*, has something common with a Multitude of *Unites*, and so it may be said, they are of the same Nature; but it does not prove any necessity of giving the same Name (*Number*) to *Unites*, and to a Multitude of *Unites*: Because, if we would, we cou'd reserve the Name of *Number* to a Multitude of *Unites*, and not give to *Unite* more than its bare Name of *Unite* or Part of *Number*.

The second Argument which *Steven* produces, is of no more force.

*If from a Number given we subtract no Number, the Number given remains.*

*If then the Unite were not a Number,*

*Subtracting one out of three, the Number given would remain, which is absurd.*

But here the Major is ridiculous, and supposes the thing in question: For *Euclid* will deny, that the

Nm-

*Number*  
it. F  
given,  
ber fr  
And if  
the fan  
Circle  
no Cir

So t  
that N  
the W  
Unite a  
But as  
not pro  
restrain  
we may  
we exp  
cept th

But  
*Number*  
ture wi  
but abo  
a *Unite*  
since an  
but a L  
Point.  
is no P  
from a  
but a P  
remain

The  
the Defi  
prove,  
I'propo  
not Geo  
ever is  
properl  
and tha



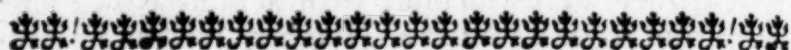
Number given remains, if no Number be taken from it. For to make it another Number than what was given, there needs no more than to subtract a Number from it, or a Part of a Number, such as a *Unite*. And if this Argument was good, we might prove in the same manner, that by taking a half Circle from a Circle given, the Circle given would remain, because no Circle is taken away.

So that all *Steven's* Arguments prove no more, than that Number may be defin'd in such a manner, that the Word Number may agree with *Unite*, because *Unite* and Multitude of *Unites* accord so well together: But as to being signified by the same Word, they do not prove that Number cannot also be defin'd, by restraining the Word to the Multitude of *Unites*, that we may not be oblig'd to except the *Unite*, every time we explain the Properties that suit all Numbers except the *Unite*.

But the second Question, *Whether a Unite be to other Numbers as a Point is to a Line*, is not of the same Nature with the first, and is not a Dispute about a Word, but about a Thing. For it is absolutely false, that a *Unite* is to a Number, as a Point is to a Line; since an *Unite* added to number makes it bigger, but a Line is not made bigger by the Addition of a Point. The *Unite* is a Part of a Number. but a Point is no Part of a Line. An *Unite* being subtracted from a Number, the Number given does not remain; but a Point being taken from a Line, the Line given remains.

The same *Steven* is full of the like Disputes about the Definition of Words, as when he chafes himself to prove, that Number is not a Quantity discreet; that Proportion of Numbers is always Arithmetical, and not Geometrical; that the Root of what Number soever is a Number: Which shews us, that he did not properly understand what Definition of Words meant, and that he mistook the Definition of Words which

were disputable, for the Definition of Things, that may often be very justly contested.



## CHAP. VI.

*Of the Rules in reference to Axioms, that is, Propositions clear and self evident.*

**A**LL agree, that there are some Propositions so clear and evident of themselves, that they have no need of being demonstrated; and that all that are not demonstrated ought to be such, that they may become the Principles of true Demonstration. For if they be sullied with the least Uncertainty, it is clear that they cannot be the Ground of a Conclusion altogether certain.

But there are some who do not apprehend wherein this Clearness and Evidence of a Proposition consists: For, in the first place, it is not to be imagin'd, that a Proposition is then clear and certain, when no body contradicts it: Or that it ought to be question'd, or at least that we shou'd be oblig'd to prove it, when we meet with any one that denies it. For if that were so, there would be nothing clear and certain, in regard there are a sort of Philosophers that question every thing, and others who assert, that there is no Proposition more probable than its contrary. And therefore we must not judge of Certainty or Truth by the Contest among Men: For there is nothing about which we may not contend, especially in Words; but we are to take that for clear and certain, which appears to be so to all those who will take the pains diligently to consider things, and are no less candid and ingenuous to discover what inwardly they think of them. And therefore it is a great Saying of *Aristotle*, that Demonstration regards only the interior Discourse,

course, a  
which c  
not be d  
engages  
he is in  
a sign o  
nius :  
quently  
wherein  
it is tho  
being ac  
at Shifts  
of an in  
Truth,  
even in

Second  
that all  
also that  
proceed  
Senses :  
clearest a  
greater th  
Understan  
from our  
that a H  
and the w

This I  
in the fir  
For if w  
whole is b  
vations w  
only prob  
certain m  
the Induc  
frequent  
believ'd  
which se  
impossibl

course, and not the exterior; because there is nothing which can be so evidently demonstrated, which may not be denied by a Person opiniated, who many times engages himself in a Dispute about things, of which he is inwardly persuaded to the contrary; which is a sign of a froward Disposition and ill-contriv'd Genius: Tho' it be too true, that this Humour is frequently predominant in the Schools of Philosophy, wherein a Custom of wrangling has prevail'd, and it is thought dishonourable to submit in the least; he being accounted to have most Wit, who is most ready at Shifts and Evasions. Whereas it is the Character of an ingenuous Man to surrender up his Arms to Truth, as soon as she appears, and to admire her even in the Mouth of his Adversary.

Secondly, The very same Philosophers who affirm, that all our Ideas proceed from our Senses, maintain also that all Certainty and Evidence of Propositions proceed either immediately or mediately from the Senses: For, say they, *this Axiom, which is reckoned the clearest and most evident that can be desir'd, The whole is greater than a Part, has no otherwise gain'd belief in our Understandings, than by our having particularly observ'd from our Infancy, that every Man is bigger than his Head, that a House is bigger than a Chamber, a Forest than a Tree, and the whole Heaven than a Star.*

This Imagination is as false as that we have refuted in the first Part, *That all our Ideas proceed from our Senses* For if we were not assur'd of this Truth, *that the whole is bigger than a Part*, otherwise than by the Observations we have made from our Infancy, we should be only probably assur'd of it, in regard Induction is no certain mean to know a thing, but when we are assur'd the Induction is entire: There being nothing more frequent then to discover the Falsity of what we have believ'd to be true upon the Credit of Inductions, which seem'd to us so general, that it was thought impossible to make any Exceptions against them.

True

True, it is not above two or three Years since that it was thought a thing not to be question'd. that the Water contain'd in an arch'd Vessel, having one Side much more Capacious than the other, kept always at an even Level, not rising higher on the lesser Side than on the greater, because we seem'd to be assur'd of it by an infinite Number of Experiments. But lately this has been found to be false, provided that one of the Sides of the Vessel be very narrow; for then the Water will rise higher on that than on the other Side. This shews us, that Inductions only can give us no solid Assurance of any Truth, unless we could be certain they are general, which is impossible. And by consequence we could be but probably assur'd of the Truth of this Axiom, *The Whole is bigger than the Part*, were we no other way assur'd of it, than because we have seen a Man bigger than his Head, a Forest bigger than a Tree, a House bigger than a Chamber, or the Heavens than a Star: Since we should still have reason to doubt, whether there were not some other Whole not bigger than its Part, that had escap'd our Knowledge.

'Tis not then on the Observations we have made from our Infancy that the Certainty of this Axiom depends, there being nothing more likely to keep us in an Error, than to adhere to the Prejudices of our Infancy: But it solely depends upon that which is clearly contain'd in our clear and distinct Ideas of the *Whole*, and a *Part*; that is, that the *Whole* is bigger than a *Part*, and a *Part* less than the *Whole*. And as for all our former Observations, of a Man's being bigger than his Head, a House than a Chamber, they only furnish us with an Occasion to consider more diligently the Ideas of the *Whole*, and a *Part*: But 'tis absolutely false that they are the Causes of the absolute and undeniable Certainty we have of the Truth of that Axiom.

What we have said of this Axiom may be said of

all other  
and Evid  
depends

What  
thing ma

Thus

Man, I  
cause to  
the Idea  
Diameter  
equal to  
a Trian

Nor c  
ing all Ev  
a ridicu  
things b  
have no  
sented to  
deas. No  
templete

Though  
say, if fro  
ty of thr  
in the Ide  
truth eve  
Right A  
sible tha  
but only  
know no  
selves to  
that we  
manner

And v  
who seri  
know no  
sider'd in  
and evid  
than a Pa



all others, and therefore I believe that the Certainty and Evidence of humane Knowledge in natural things depends on this Principle.

*Whatever is contain'd in the distinct and clear Idea of a thing may be truly affirm'd of that thing.*

Thus because that *Animal* is included in the *Idea* of *Man*, I can affirm of *Man* that he is an *Animal*: Because to have all its Diameters equal is included in the *Idea* of a *Circle*, I can affirm of any *Circle* that all its Diameters are equal: Because the having of all Angles equal to two Right Angles is included in the *Idea* of a *Triangle*, I can affirm it of every *Triangle*.

Nor can this Principle be disputed without denying all Evidence of Humane Knowledge, and setting up a ridiculous Pyrrhonism: For we cannot judge of things but by the *Ideas* we have of them, since we have no way to conceive them, but as they are represented to our Thoughts, and that is only by their *Ideas*. Now if the Judgments we make, while we contemplate these *Ideas* should only represent our Thoughts, and not the things Themselves; that is to say, if from the Knowledge we have, that the Equality of three Angles with two Right Angles is contained in the *Idea* of a *Triangle*, I could not conclude, that in truth every *Triangle* has three Angles equal with two Right Angles, but only that I thought so; it is visible that then we should have no Knowledge of things but only of our Thoughts; and by consequence should know nothing of those Things which we persuade our selves to be most certain of; only we might say, that we think so, which would manifestly destroy all manner of Sciences.

And we need not fear that there are any Persons who seriously agree upon this Consequence, that we know not the Truth or Falshood of any thing consider'd in it self. For there are some things so plain and evident; as, *I think, therefore I am*; *the Whole is bigger than a Part*; that it impossible seriously to doubt whether

ther they be such in themselves as we conceive them to be. For we cannot doubt of them without thinking of them, nor can we think of them without believing them true, and by consequence we cannot doubt of them.

Nevertheless this one Principle does not suffice to judge of what ought to be receiv'd for an Axiom: there are certain Attributes really included in the Nature of things, which nevertheless both may and ought to be demonstrated; as the Equality of all the Angles of a Triangle to two Right ones, or of all the Angles of a Hexagon to eight Right ones. But it will be needful to observe, whether the *Idea* of a thing require only a slight Consideration, to see clearly that such an Attribute is contain'd in the *Idea*; or whether it be requisite to join some other *Idea*, to discover the Connexion. When it is necessary to consider the *Idea* only, the Proposition may be taken for an Axiom; especially if that Consideration require but a slight Attention, of which ordinary Understandings may be capable: But if it be requisite to join another *Idea* to the *Idea* of the Thing, 'tis a proposition to be demonstrated; and so these two Rules may be given concerning Axioms.

#### R U L E I.

*When to see clearly that an Attribute agrees with a Subject; (as to see that it agrees with the Whole to be bigger than its Part, there needs but a slight Attention to consider the two Ideas of the Subject and the Attribute; insomuch that it may be done without perceiving, that the Idea of the Attribute is really included in the Idea of the Subject) we then may take that Proposition for an Axiom which requires no Demonstration, because it contains in it self all the Evidence that Demonstration could give it, which could do no more than shew, that that Attribute agrees with the Subject, by making use of a third Idea to shew the Connexion, which is already seen without the assistance of any third Idea.*

But w  
it carry'e  
Demonst  
plainatio  
they ha  
being no  
more at l  
as Demo  
not clear

When the  
the At  
agrees  
to be ta  
by mak  
as we n  
three A

These  
are gener  
usual Err  
selves suf  
to give c  
what the  
minding  
they take  
Thought  
Ideas of  
what is in  
as false w  
believe n  
of more f  
For ex  
Wood, be  
gure, Mo  
tween the  
tinct from  
but Tru

But

But we must not confound a bare Explication, tho' it carry'd some Form of an Argument, with a true Demonstration: For there be Axioms that require Explanation that may be the better understood, tho they have no need of Demonstration; Explanation being nothing else but to speak in other Terms, and more at large, what is contain'd in the Axiom; whereas Demonstration requires some new way, which is not clearly contained in the Axiom.

## RULE 2.

*When the sole Consideration of the Ideas of the Subject and the Attribute suffices not to see clearly, that the Attribute agrees with the Subject, the Proposition that affirms it is not to be taken for an Axiom; but it ought to be demonstrated, by making use of certain other Ideas to shew the Connexion; as we make use of the Idea of parallel Lines to shew, that three Angles of a Triangle are equal to two Right Angles.*

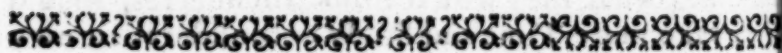
These two Rules are of greater moment than they are generally taken to be; for it is one of the most usual Errors among Men, not to consult with themselves sufficiently about what they deny or affirm, but to give credit to what they have heard others say, or what they have formerly thought themselves; never minding what they wou'd think themselves, shou'd they take more Time and Study to consider their own Thoughts, heeding more the Sound than the true Ideas of Words; and affirming for clear and evident what is impossible for them to conceive, and denying as false what it would be as impossible for them to believe not to be true, would they but take the pains of more serious Consideration.

For example; they who say that in a Piece of Wood, besides its Parts and their Situation, their Figure, Motion, or Rest, and the Pores that lie between those Parts, there is yet a substantial Form distinct from all these things, believe they speak nothing but Truth; yet all the while they speak what  
neither

neither they, nor any other Person living, do comprehend, or ever will.

If, contrarywise, a Man should have a mind to explain to them the Effects of Nature by the insensible Parts of which Bodies are compos'd, and by their different Situation, Bigness, Figure, Motion or Rest, and by the Pores between the Parts that open or stop the Passage for other Matters, they would believe we talk nothing but *Cbimera's*, tho' we should tell them nothing but what they may easily conceive; and, by a strange Perverseness of Understanding, the Easiness of conceiving these things carries them to believe, that they are not the real Causes of Nature's Effects; but that they are more occult and mysterious. So that they rather choose to believe those that explain them by Principles which they conceive not, than those which make use of Principles which they understand.

And what is yet more pleasant, when we talk to them of insensible Parts, they believe they have sufficient ground to reject them, because they can neither be felt nor seen; whereas they can swallow substantial Forms, ponderosity, attractive Virtue, &c. which they cannot only neither see nor feel, but not so much as conceive.



## CHAP. VII.

*Certain Axioms of moment, that may serve for Principles of great Truths.*

**I**T is a thing by all confess'd, that it is of great moment to bear in our Memories and Minds several Axioms and Principles, which being clear and unquestionable, may serve as a Foundation to lead us to the Knowledge of things most occult. Tho' many that are most usually laid down are of so little use that

that it is  
call the fi  
the same th  
dent; bu  
serviceab  
But th

All that is

The Exist  
the Idea of

For the  
distinctly  
regard th  
Contradi  
no Contr  
distinct.

From  
Corollari

A x

No thing,  
thing,  
Existen

A x

All Realit



that it is needless to know them: For that which they call the first Principle of Knowledge, *It is impossible that the same thing should be and not be*, is most clear and evident; but I know no Occasion wherein it may be serviceable to teach us general Knowledge.

But these that follow may be of some use.

#### AXIOM 1.

*All that is included in the clear and distinct Idea of a thing may be affirm'd with Truth.*

#### AXIOM 2.

*The Existence, at least that which is possible, is included in the Idea of all that which we conceive clearly and distinctly.*

For the moment a Thing is conceiv'd clearly and distinctly, we cannot deny its possible Existence; in regard that we deny things to be, by reason of the Contradiction between our *Ideas*. Now there can be no Contradiction in an *Idea*, when it is clear and distinct.

#### AXIOM 3.

*Nothing cannot be the Cause of any thing.*

From this spring other Axioms, that may be called Corollaries; such as these that follow.

#### AXIOM 4. or COROL. 1. of the 3d.

*No thing, or no Perfection of a thing in being, can have no thing, or a non-existing thing, for the Cause of its Existence.*

#### AXIOM 5. or COROL. 2. of the 3d.

*All Reality or Perfection of a thing is found expressly or eminently in the first and total Cause.*

#### AXIOM

## AXIOM 6. or COROL. 3. of the 3d.

*No Body can move it self; that is, give Motion to it self not having any.*

This Principle is so naturally eminent, that it is that which has introduc'd substantial Forms, and the real Qualities of Ponderosity and Lightness. For the Philosophers on the one side finding it impossible, that that which ought to be mov'd should move it self, and being erroneously persuaded, on the other side, that there was nothing without that push'd down the Stone when it fell, thought it necessary to distinguish two things in a Stone, the Matter that receiv'd the Motion, and the substantial Form assisted by the accident of Ponderosity that begat the Motion: Not heeding that they fell thereby into that Inconvenience, which they sought to avoid, if the Form it self were material that is, real Matter. Or if, it were not Matter, then that it was to be a Substance really distinct; which was impossible for them clearly to conceive, at least to conceive it as a Spirit, or thinking Substance; as the Form of Man, and not the Forms of other Bodies.

## AXIOM 7.

*No Body can move another, unless it be mov'd it self.*

For if a Body being at rest cannot give Motion to it self, much less can it give Motion to another.

## AXIOM 8.

*We must not deny that which is clear and evident, because that which is obscure cannot be convinc'd.*

## AXIOM 9.

*It is the Nature of a finite Spirit not to conceive an infinite*

## AXIOM 10.

## AXIOM 10.

*The Testimony of a Person infinitely Powerful, infinitely Wise, infinitely Good, and infinitely true, ought to be more effectual than the most prevailing Demonstrations.*

For we ought to be more assur'd, that he who is infinitely Wise cannot be deceiv'd, and that he who is infinitely Good will not deceive us, than we can be assur'd that we are not deceiv'd our selves in things the most evident.

These three last Axioms are the Foundation of Faith, of which more hereafter.

## AXIOM 11.

*Those Facts, of which the Sense may easily judge, being attested by a great number of Persons of several Centuries, sundry Nations, and various Interests, who speak of them as known by themselves, and whom we cannot suspect for conspiring to uphold a Falshood, ought to pass for as constant and unquestionable, as if we had seen them with our own Eyes.*

This is the Foundation of the greatest part of our knowledge, there being infinitely a greater number of things, which we know by this means, than of those which we know of our selves.

\*\*\*\*\*

## CHAP. VIII.

*Of Rules relating to Demonstration.*

True Demonstration requires two Things: The one, that in the Matter there be nothing but that is certain and unquestionable; the other, that there be nothing faulty in the Form of the Argument.

Now

Now we shall obtain both the one and the other, if we observe the two Rules which we have premis'd.

For there will be nothing but what is certain in the matter, if all the Propositions made use of for Proofs be,

Either Definition of Words already explain'd, which being arbitrary cannot be question'd :

Or Axioms conceded, and which ought not to be supposed, if they be not clear and evident of themselves by the third Rule :

Or Propositions already demonstrated, and which by consequence are become clear and evident by the Demonstration made of them :

Or the Construction of the thing it self which is in dispute, when there is any Operation to be done, which ought to be as unquestionable as the rest ; since Construction ought to be first of all demonstrated to be possible, if there be any Question concerning it.

Clear it is therefore, that observing the first Rules nothing must be brought to prove a Proposition but what is certain and evident. It is also easy to shew that there can be no Error against the Form of Argument, by observing the second Rule, which is never to make an ill use of the Equivocation of Terms, but by failing to substitute mentally the Definitions that restrain and explain 'em.

For if ever we transgress against the Rules of Syllogisms, it is in the deceiving ourselves with the Equivocation of some Term, and taking it in one Sense in one of the first Propositions. and in another Sense in the other : Which happens chiefly in the middle Term of the Syllogism ; which being taken in two various Senses in the two first Propositions, is the most usual Fault of vicious Arguments. Now it is clear, that Fault may be avoided if we observe the second Rule.

Not that they are the only Vices of Syllogisms that arise from the Equivocation of the Terms ; but those other are of such a nature, that it is almost impossible



possible, that a Person but of a mean and ordinary Capacity should ever fall into them, especially in speculative Matters; and therefore it wou'd be a needless thing to admonish them to beware of those Errors, or to prescribe Rules. Besides, that it would rather be hurtful, in regard the Consideration of these superfluous Rules would but draw off our Studies from those that are more necessary.

Therefore we find the Geometticians never trouble themselves about the Forms of their Arguments, or mind Conformity to the Rules of Logic; and yet they are never deceiv'd, in regard they are guided by Nature, without the Assistance of much Study.

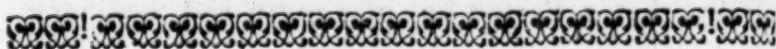
There is another Observation to be made upon Propositions, that require Demonstration: That is, that they are not to be reckon'd for such, which may be demonstrated for such by the Application of the Rule of Evidence, to every evident Proposition. For if it were so, there wou'd hardly be any Axiom which wou'd not require Demonstration; when almost all may be demonstrated by that Axiom, which we have laid down as the Foundation of all Evidence: *Whatever we find to be contain'd in one clear and distinct Idea, may be affirm'd for Truth.* As for Example:

*All that we find in one clear and distinct Idea, may be affirm'd for Truth.*

Now we see that the clear and distinct Idea, which we have of the whole, includes its being bigger than its Part.

Therefore we may affirm for Truth, that the whole is bigger than its Part.

But tho' this be a very good Proof, yet it is not absolutely necessary, because the Understanding supplies the Major, without any necessity of a particular consideration, and clearly and evidently sees that the whole is bigger than a Part, without reflecting from whence the Evidence arises: For they are two different things, to know a thing evidently, and to know from whence arises the Evidence.



## C H A P. IX:

*Of some Errors usually occurring in the Method of the Geometricians.*

**W**E have seen what is good in the Method of the Geometricians, which we have reduc'd to five Rules, wherein we cannot be too exact. And we must confess it for a thing most admirable; their having discover'd so many occult things, and their having demonstrated them by so many firm and invincible Reasons, by the help of so few Rules. So that among all the Philosophers, they have only the advantage to have banish'd out of their Schools and Writings, Contests and Disputes.

Nevertheless, to make a Judgment of things without Prejudice, as we cannot deny them the honour to have follow'd a way much more assur'd than others to find out the Truth; so we cannot deny but that they are fallen into some Errors, which do not lead them however from their end; but are the cause oftentimes they do not attain their end by the most direct and commodious Way. Which I shall endeavour to make out, drawing from *Euclid* himself the Examples of these Errors.

## Error 1.

*To be more diligent and take more care of Certainty than of Evidence; and of convincing, than of enlightening the Understanding.*

The Geometricians are to be commended for asserting nothing but what is certain and demonstrated; but they seem not to have heeded, that to have a perfect Knowledge of a Truth, it does not suffice

to be c  
to the  
why it  
our Un  
fore fea  
which i  
Knowle  
which v

T

The C  
proving  
verthele  
sedulous  
they thin  
ducing s  
dent, tha  
Understa  
This in  
Triangle  
only, thou  
Line, whi  
between  
Interval b  
be if it we  
be drawn

This al  
which he  
to draw a L  
easy, and r  
Radius gi  
This Er  
dering, tha  
edge in na  
e may affir

to be convinc'd that it is a Truth, unless we dive into the Reasons taken from the Nature of the thing, why it is true: For till we are arrived at that point, our Understanding is not fully satisfied, and therefore searches still after a further Knowledge than that which it has; a Sign that it has not yet attain'd a true Knowledge. And this is the Source of all the rest which we shall observe.

## Error 2.

*To prove things that have no need of Proof.*

The Geometricians confess, that there is no need of proving those things that are clear of themselves: Nevertheless, they do it frequently; for that being more sedulous to convince, than to clear the Understanding, they think they shall be more able to convince, by producing some Proof of things themselves the most evident, than by proposing them barely, and leaving the Understanding to find out the Evidence.

This inclin'd *Euclid* to prove, that two Sides of a Triangle being taken together, are bigger than one only, though it be evident by the sole Notion of a right Line, which is the shortest Length that can be drawn between two Points, and the natural measure of the Interval between Point and Point; which it cou'd not be if it were not the shortest of all the Lines that can be drawn from a Point to a Point.

This also induc'd him to make a Problem of that which he should rather have made a *Postulatum*, viz. to draw a Line equal to a Line given; though it be as easy, and more easy than to draw a Circle having one Radius given.

This Error no doubt proceeded from his not considering, that all Certainty and Evidence of our Knowledge in natural things, rises from this Principle: That we may affirm of a thing whatever is contain'd in its clear

and distinct Idea. Whence it follows, that if, in order to know that an Attribute is included in an Idea, we have no occasion to do any thing more than simply to consider the Idea, this ought to pass for evident and clear, as we have already said.

I know there are some Attributes that are more easily known to be included in the Ideas, than others: But I believe it sufficient, if they may be clearly known with a slight Consideration, so that no Person that has any thing of Ingenuity can seriously question it, that the Propositions be look'd upon as drawn from a bare Consideration of Ideas, as from Principles that have no need of Proof, but of explanation, and some little Discourse. Thus I affirm, that there is no Man who has never so slightly consider'd the Idea of a Right Line; but he will not only presently conceive that its Position depends only upon two Points, (which *Euclid* took for one of his *Postulatus*) but that he will also clearly and easily apprehend, that if one Right-line cut another, and that there be two Points in the cutting Line, each equally distant from the two Points, of the Line cut; there is no other Point of the Line cutting, which will not be equally distant from the two Points of the cut Line. From whence it will be easy to know when any one Line will be perpendicular to another, without the help of Angle or Triangle; which ought not to be handled till after the laying down of many things which cannot be demonstrated but by Perpendiculars.

We are also to observe, that excellent *Geometricians* have laid down for Principles, Propositions much more obscure than this of ours. As when *Archimedes* builds his noblest Demonstration upon this Maxim: If two Lines in the same Plane have the same common Extremity, and are crook'd or hollow toward the same part, the contained will be less than the containing.



I confess this Error of going about to prove that which requir'd no Proof, seems to be but a small fault, and indeed none in itself; yet we shall find it to be a great one, if we consider the Consequences. For from hence arises that Transversment of the Order of Nature, of which hereafter: This desire of proving that which is to be suppos'd clear and evident of itself, having often oblig'd Geometricians to treat of things on purpose to furnish themselves with Proofs for those things which they ought not to prove, and which, according to the Order of Nature, ought not to have been treated of till afterwards.

## Error 3.

*Demonstration by Impossibility.*

The sort of Demonstrations that shews a thing to be such not by its Principles, but by some Absurdity that wou'd follow, if it were otherwise, are very ordinary in *Euclid*. Whereas it is manifest, that such Demonstrations constrain us indeed to give our consent, but no way clear our Understandings, which ought to be the principal End of Sciences: For our Understanding is not satisfied if it does not know not only that a thing is, but why it is? which cannot be obtain'd by a Demonstration reducing to Impossibility.

Not that these Demonstrations are altogether to be rejected; for sometimes they may be useful to prove Negatives, which are properly no more than Corollaries of other Propositions either clear of themselves, or demonstrated already some other way. And then this Demonstration, by reducing to Impossibility, supplies the place of an Explanation, rather than a new Demonstration.

Lastly; It may be said, that these Demonstrations are not to be admitted but when we can give no others; and that it is an Error to use them for the Proof of that which may be positively prov'd.

T :

Now

Now there are several Propositions in *Euclid* which he proves only by this way, which without difficulty might be prov'd after another manner.

Error 4.

*Demonstration drawn from things too remote,*

This Error is very common among the Geometricians; they never trouble themselves whence the Proofs which they bring are taken, so they be but convincing; nevertheless it is but an imperfect Way of proving things by Ways remote and foreign, upon which the things demonstrated no way depend according to the Order of Nature.

All which we shall understand better by some few Examples.

*Euclid, L. 1. Prop. 5.* Proves that an *Isofoles* Triangle has two Angles equal at the Base; to this purpose, he equally extends the Sides of a Triangle, and makes new Triangles, which he compares one with another.

But is it not incredible that a thing so easy to be prov'd, as the Equality of these Angles, wou'd have need of so much Cunning to prove it; as if there were any thing more ridiculous than to imagine that this Equality depended upon foreign Triangles: Whereas had he follow'd true Order, here are many ways more easy, shorter, and more natural to prove the same Equality.

The 4th of the same Book, where it is prov'd, that the Square of a Base that sustains a Right Angle, is equal to the two Squares of the Sides, is one of the most esteem'd Propositions in *Euclid*: And yet it is evident, that the Manner by which he there proves it, is not so natural; since the Equality of those Squares does no way depend upon the Equality of Triangles, which are taken however as the Medium for this Demonstration; but upon the Proportion of Lines, which  
may

may easily be demonstrated without the help of any other Line than the Perpendicular from the top of the Right Angle to the Base.

All *Euclid* is full of these foreign Demonstrations.

Error 5.

*To take no care of the true Order of Nature.*

This is the greatest Error of the *Geometricians*: For they believe there is no Order to be observ'd, so that the first Propositions may but serve to demonstrate those that follow: And therefore never heeding the Rules of true Method, which is always to begin at the most plain and general things, from thence to ascend to things more compounded and particular, they confound every thing, and treat pell-mell of Lines and Surfaces, Triangles and Squares; prove by Figures the Property of single Lines, and make an infinite number of other Topsi-turvie, that disfigure that noble Science.

The Elements of *Euclid* are stuffed with Errors of this nature; after he has treated of Extent in his four first Books, he treats in general of the Proportion of all sorts of Bulks in the fifth: He resumes his Argument of Extent in his sixth; and treats of Numbers in the seventh, eighth and ninth, to resume again in his tenth his first Discourse of Extent. Which is a preposterious Disorder in general; but there are many others more particular. He begins his Book with the Construction of an Equilateral Triangle; and 22 Propositions afterwards, he prescribes the general Method of making any Triangle of three Right-lines given, provided that two be bigger than the third: Which denotes the particular Construction of an Equilateral Triangle, upon a Line given.

He proves nothing as to perpendicular Lines and Parallels, but by Triangles; and intermixes Dimension of Surfaces with that of Lines.

He proves, *Lib. 1. Prop. 16.* that the side of a Triangle being extended in Length, the Exterior Angle is bigger than either of the Angles inwardly opposite; and 16 Propositions after that, this Exterior Angle is equal to two opposite.

It wou'd require a Transcription of *Euclid* to give all the Examples of this Disorder that might be produc'd.

### Error 6.

*Not to make use of Divisions and Partitions,*

It is another great Error among *Geometricians* not to make use of Divisions and Partitions; not but that they mark out all the *Species* of those *Genus's* of which they treat, but because they do it simp'y, by defining the Terms, and putting all the Definitions afterwards without observing that a *Genus* has so many *Species*, and that it can have no more, because the general Idea of the *Genus* can receive but so many Differences; which wou'd give us a great deal of light to dive into the nature of *GENUS* and *Species*.

For Example; We shall find in the first Book of *Euclid*, the Definitions of all the *Species* of a Triangle: But who doubts not but that the thing wou'd be much more clear, were these *Species* thus propounded.

A Triangle may be divided either according to its Sides or Angles.

The Sides are

Either  $\left\{ \begin{array}{l} \text{all Equal, and are call'd } \textit{Equilateral.} \\ \text{two only Equal, then call'd } \textit{Isosceles.} \\ \text{all Unequal, then call'd } \textit{Scalene.} \end{array} \right.$

The Angles are

Either  $\left\{ \begin{array}{l} \text{all three Acute, and are call'd } \textit{Oxigons.} \\ \text{two only Acute, and then the third is} \end{array} \right.$

Either  $\left\{ \begin{array}{l} \text{Right, then call'd } \textit{Rectangle}; \text{ or} \\ \text{Obtuse, then call'd } \textit{Amblygon.} \end{array} \right.$

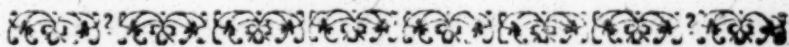
And



And it is better not to give this Division of Triangles, till after the general Explanation and Demonstration of all the Proprieties of a Triangle; whence we shou'd have learnt, that at least two of the Angles of a Triangle must be Acute, because that all three together are but equal to two Right ones.

This Error falls back into that of the Order, which lays down that we ought not to treat of Species, nor to define 'em, till after we understand the Genus, especially when there are many things to be said of the Genus, which may be explain'd without mentioning the Species.

*The Fourth Book by J. Blount*



## CHAP. X.

*An Answer to what the Geometricians alledge for themselves.*

**T**HERE are some *Geometricians*, who believe they have justified themselves as to these Errors, by saying, that they never troubled their Heads about them; that it is sufficient for them to aver nothing but what they prove convincingly, and that they are thereby assur'd that they have found out the Truth, which is all they aim at.

We must confess indeed, that these Errors are not so considerable, but that we must acknowledge that of all Humane Sciences there are none better handled, than those that are comprehended under the general Name of *Mathematicks*: Only we affirm, that there may yet be something added to render them more perfect; and that though the principal thing which they ought to consider, be to advance nothing but what is true; yet it were to be wish'd that they wou'd be more diligent in finding out the most

natural manner of imprinting that Truth in the Understanding.

For let them say as much as they please, that they take no heed to observe any genuine Order, or whether they prove their Propositions by Ways natural or remote, so they have their end of Convincement, yet can they not thereby alter the Nature of our Understanding, nor imprint a more clear, more entire, and more perfect Knowledge of things which we know by their true Causes and their true Principles, than of such things as are prov'd to us only by oblique and foreign Methods.

Besides, that it is unquestionably true that things are far more easily learnt, and better retain'd in the Memory, when we learn them by right Order; because these *Ideas* which are link'd one to another in a continued Series, are without Confusion committed to the Memory, and awaken each other, when need requires, more promptly, and with greater Felicity. We may also affirm this moreover, that what we once know by diving into the true reason of things, is not retain'd so much by the Memory, as by the Judgment; and it becomes so much our own, that we cannot forget it. Whereas that which we only know by Demonstrations, not grounded upon natural Reasons, sooner slips out of our Minds, and is with more difficulty recover'd; because our Understanding does not furnish us with the means to recover what we have lost.

We must then agree, that it is much better to observe, than not to observe this Order. But all that the most equal Judges can say in this particular, is, that we must neglect a smaller Inconvenience, when it cannot be avoided without falling into a greater.

And thus it is indeed an Inconvenience not to observe a right Order; but that it is better not to observe it, than to fail of proving invincibly what is propounded, and to expose our selves to Error and Paralogism,

logism  
more  
exem

Th  
that  
befor  
lecte  
force  
to Mi  
Bu  
both  
Elem  
thing  
the P  
natur  
clear  
execu  
cially

xxx

The

IT  
to  
amon  
Rule  
Chap  
eight  
be re  
Th  
refer  
late  
Part  
refer

logism, by searching after certain Proofs that may be more natural, but which are not so convincing, nor so exempt from all Suspicion of Deceit.

This is a very reasonable Answer : And I confess, that Assurance of not being deceiv'd, is to be prefer'd before all things ; and that right Order is to be neglected, where it cannot be follow'd without losing the force of the Demonstration, and exposing our-selves to Mistake.

But I cannot agree, that it is impossible to observe both the one and the other ; and, I believe, that the Elements of Geometry might be so compos'd, that all things might be handled in their natural Order, all the Propositions prov'd by the Ways that are most natural and simple, and yet that all things shou'd be clearly demonstrated. [This is what has been since executed in the new Elements of Geometry, and especially in the new Edition lately publish'd of it.]



## CHAP. XI.

*The Method of Sciences reduc'd to eight Principal Rules.*

IT may be concluded from what has been said, that to have a more perfect Method than that in use among the *Geometricians*, we ought to add two or three Rules to those five already laid down in the second Chapter : So that all the Rules may be reduc'd to eight ; of which the two first relate to *Ideas*, and may be refer'd to the First Part of this *Logic*.

The third and fourth relate to *Axioms*, and may be refer'd to the second Part ; and the fifth and sixth relate to Arguments, and may be refer'd to the Third Part : And the two last relate to Order, and may be refer'd to the Fourth Part.

## Two RULES touching DEFINITIONS.

1. To let go none of the Forms that are but a little obscure or equivocal, without defining 'em.
2. In Definition, not to make use of Terms that are not perfectly known, or already explain'd.

## Two RULES for AXIOMS.

3. To require in *Axioms* only those things that are perfectly evident.
4. To receive for evident, that which requires but a slight Consideration to make it pass for Truth.

## Two RULES for DEMONSTRATION.

5. To prove all the Proportions that are but a little obscure, by the assistance of preceding Definitions, *Axioms* conceded, or proper Propositions already demonstrated.
6. Never to make an ill use of the Ambiguity of Terms, by failing to substitute at least mentally those Definitions that restrain and explain them.

## Two RULES for METHOD,

7. To handle things as much as may be in their natural Order, beginning from the most simple and general, and explaining whatever appertains to the nature of the *Genus*, before we proceed to particular *Species*.

8. To divide as much as may be every *Genus* into all its *Species*, every Whole into all its Parts, and every Difficulty into all its Cases. I have added to these Rules as much as may be, because it is true, that we may meet with some Occasions wherein they cannot be observ'd to the utmost Severity, either because of the narrow Limits of Humane Understanding, or by reason of those Bounds we are constrain'd to assign to every Science.

Whence

W  
expla  
Genus  
cle, w  
the G  
N  
whic  
then  
we p  
H  
ver'd  
the r  
albu

✱✱

Of

W

ed u  
clud  
Kno  
no l  
draw

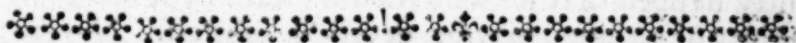
F  
a th  
we l  
Obf  
or-b  
Reaf  
the  
here  
ner  
ject



Whence it happens that a *Species* is sometimes to be explain'd before we can explain all that belongs to the *Genus*: Thus in common Geometry we treat of a Circle, without saying any thing of a Curve-line, which is the *Genus* of a Circle, which we think sufficient to define.

Nor can we explain all that might be said of a *Genus*, which wou'd often prove too tedious. But it suffices then to speak as much as we think expedient, before we pass to the *Species*.

However, I believe no Science can be perfectly deliver'd without observing these two last Rules as well as the rest; which are not therefore to be dispens'd withal but upon absolute necessity, or some great advantage.



## C H A P. XII.

*Of what we know by Faith, whether Humane or Divine.*

**W**HAT we have hitherto discours'd relates to Science purely humane, and Knowledge founded upon the Evidence of Reason. But before we conclude, it will not be amiss to speak of another sort of Knowledge, which oftentimes is no less certain, and no less evident in its Manner, than that which we draw from Authority.

For there are two general Ways by which we know a thing to be true: The first is the Knowledge which we have by ourselves, whether we have obtain'd it by Observation or Ratiocination, whether by our Senses or by our Reason; which may be generally term'd *Reason*, in regard the Senses themselves depend upon the Judgment of Reason or Science, taking the Word here more generally than in the Schools, for all manner of Knowledge of an Object drawn from the Object itself.

The other Way is the Authority of Persons worthy of Credit, who assure us a thing is so; though of ourselves we know nothing of it: Which is call'd Faith or Belief, according to the Words of St. *Austin*; what we know, we owe to Reason; what we believe, to Authority.

But as this Authority may be of two sorts, either from God or Man; so there are two sorts of Faith, Divine and Humane.

Divine Faith cannot be subject to Error, because God can neither deceive us, nor be deciev'd.

Humane Faith is of it self subject to Error, for all Men are Liars according to Scripture; and because it may happen that he who should assure us of the Certainty of a thing, may be deceiv'd himself. Nevertheless, as we have already observ'd, there are some things which we know not but by Humane Faith, which nevertheless we ought to believe for as certain and unquestionable, as if they were Mathematically demonstrated. As that which is known by the constant Relation of so many Persons, that it is morally impossible they should ever have conspired to affirm the same things, if they were not true. For Example; Men have been naturally most averse from conceiving any *Antipodes*; nevertheless, though we never were in those Places, and know nothing of any *Antipodes* but by humane Faith, he must be a Fool that does not believe them. And he must be out of his Wits, who questions whether ever there were any such Persons as *Cæsar*, *Pompey*, *Cicero*, or *Virgil*, or whether they were not feign'd Names as *Amadis de Gaul* &c.

True it is, that it is a difficult thing to know when humane Faith has attain'd to this same assurance; and this is that which leads Men astray into two such opposite Deviations. So that some believe too slightly upon the least Report; others ridiculously make use of all the force of their Wit, to annul the Belief of things attested by the greatest Authority, when it

thwarts

thwart  
there  
must  
beyon  
ing in  
with  
er to

No  
Ways  
and F  
some  
tle, an  
oursel  
if Re  
some  
are no  
pally  
son te  
not de  
Natur  
thoug  
in Ob  
neithe  
nal of  
Cause,  
ject ou  
given  
other  
that h  
which

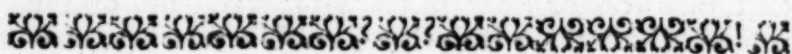
As  
Faith  
derstan  
Dictat  
to be  
is mor  
than t  
more

thwarts the Prejudice of their Understanding. And therefore certain Limits are to be assign'd, which Faith must not exceed to obtain this assurance ; and others, beyond which there is nothing but Uncertainty, leaving in the middle a certain Space, where we shall meet with Certainty or Uncertainty, as we approach nearer to the one or the other of these Bounds.

Now then if we do but compute the two general Ways by which we believe a thing to be true, Reason and Faith ; certain it is, that Faith always supposes some Reason. For as *St. Austin* says, in his 122<sup>d</sup> Epistle, and in several other places, we could never bring ourselves to believe that which is above our Reason, if Reason itself had not persuaded us that there are some things which we do well to believe, though we are not capable to apprehend them, which is principally true in respect of Divine Faith : For true Reason teaches us, that God being Truth itself, he cannot deceive us in what he reveal to us concerning his Nature and his Mysteries : Whence it appears, that though we are oblig'd to capativate our Understanding in Obedience to Faith, as saith *St. Paul*, yet we do it neither blindly nor unreasonably, which is the Original of all false Religion ; but with a Knowledge of the Cause, and for that it is but a reasonable Act to subject ourselves to the Authority of God, when he has given us a sufficient Proof, such as are his Miracles and other prodigious Accidents, which oblige us to believe that he himself has discover'd to Men the Truths which we are to believe.

As certain it is in the second place, that Divine Faith ought to have a greater power over our Understanding than our Reason : And that upon this Dictate of Reason itself, that the more certain is to be prefer'd before the less certain ; and that that is more certain which God assures us to be true, than that which Reason persuades us ; since it is more contrary to the Nature of God to deceive

us, than the Nature of our own Reason to be deceiv'd.



## CH A P. XIII.

*Certain Rules for the Guidance of Reason in the Belief of Events that depend upon Humane Faith.*

THE most customary use of sound Judgment, and that Faculty of the Soul by which we discern Truth from Falshood, is not in speculative Sciences, about which so few Persons are oblig'd to spend their Time; but there is no occasion wherein 'tis more frequently made use of, and where it is more necessary, than in that Judgment which we ought to make of what passes every Day among M

I do not speak of judging whether an Action be good or bad, worthy of applause or Reproof, for that belongs to the Regulation of Morality; but of judging of the Truth or Falshood of humane Events, which may only be refer'd to Logic, whether we consider them as past, as when we only endeavour to know whether we ought to believe them or not; or whether we consider them as being to come, as when we fear or hope they will come to pass, which regulates our Hopes and our Fears.

Certain it is, that some Reflections may be made upon this Subject, which perhaps may not be altogether unprofitable, or rather may be of great use for the avoiding of certain Errors into which many People fall because they do not sufficiently study the Rules of Reason.

The first Reflection is, that there is a vast difference to be made between two sorts of Truths; the one that only relates to the Nature of things, and their immu-  
table

table E  
other t  
human  
not co  
may pr  
past. I  
making  
Divine  
not hi  
unkno  
lieve t  
Now  
sort, t  
true;  
if it be  
But  
the Be  
falsly,  
For  
would  
fary T  
void o  
things  
solutel  
Nor  
requir  
were t  
tian R  
imposs  
should  
the far  
cannot  
the oth  
We  
questio  
fibility  
to mak  
so to be



table Essences, abstracted from their Existence ; the other that relates to things existent, and especially to humane and contingent Events, which may or may not come to pass when we speak of the future, and may probably never have been when we talk of what's past. I speak this with reference to their next Causes, making an Abstraction of their immutable Order in Divine Providence ; because on the one side it does not hinder Contingence, and on the other side being unknown to us, it contributes nothing to make us believe the things themselves.

Now as all things are requisite in Truths of the first sort, there is nothing sure, which is not universally true ; and so we must conclude, that a thing is false if it be false in any case.

But if we think to make use of the same Rule in the Belief of Humane Events, we shall always judge falsely, and make a thousand false Arguments.

For these Events being naturally contingent, it would be ridiculous to seek out in them for a necessary Truth ; and so that Person would be altogether void of Reason, who would believe nothing of such things unless it were made out to him, that it was absolutely necessary they should be so.

Nor would he less deviate from Reason, that should require me to believe any particular Event (suppose it were the Conversion of the King of *China* to the Christian Religion) upon this only ground, because it is not impossible to be so : For seeing that another who should assure me to the contrary, may make use of the same Reason ; it is clear, that that Reason alone cannot determine me to believe the one rather than the other.

We must therefore lay it down for a certain and unquestionable Maxim upon this occasion, that the Possibility alone of an Event, is not a sufficient Reason to make me believe it ; and that it may have reason also to believe a thing, though I judge it not impossible  
but

but that the contrary may have come to pass; so that of the two Events, I may rationally believe the one and not the other, though I believe them both possible.

How then shall we resolve to believe the one rather than the other, if we judge them both possible? Observe the following Rule:

To judge of the Truth of an Event, and to persuade myself into a Resolution to believe, or not to believe a thing; it must not be consider'd nakedly, and in itself, like a Proposition in *Geometry*; but all the Circumstances that accompany it, as well internal as external, are to be weigh'd with the same Consideration: I call internal Circumstances, such as belong to the Fact itself; and external, those that relate to the Persons whose Testimonies induce us to believe it. This being done, if all the Circumstances are such that it never or very rarely happens that the same Circumstances are accompanied with Falshood; our Understanding naturally carries us to believe the thing to be true; and there is reason for so doing, especially in the Conduct of the Actions of our Life, that never requires a greater Assurance than a moral Certainty, and which is satisfied upon most occasions with a great Probability. But on the other side, if these Circumstances are such as are frequently accompanied with Falshood, Reason requires us to suspend our Belief; or that we should look upon as false what is told us, when we see no likelihood that it should be true, though we do not find any absolute Impossibility.

For example; we demand whether the History of the Baptism of *Constantine* by *Sylvester*, be true or false? *Baronius* believes it true; but Cardinal *Perron*, Bishop *Spondanus*, *Petavius*, *Morinus*, and the most eminent of the *Roman Church*, believe it false. Now if we insist upon the sole Possibility, we have no reason to reject the Story, for it contains nothing absolutely impossible; and to speak absolutely, it is also possible that *Eusebius*, who affirms the contrary, affirm'd an Untruth

truth i  
that fo  
But if  
which  
of the  
which  
we sha  
side, t  
mony  
Acts o  
who h  
Rome.  
that a  
presun  
remark  
restor's  
needs  
some ti  
or five  
New  
which  
Likeli  
wife s  
gratit  
ries.

For  
enerva  
blejan  
sitive  
ently  
should  
ner.  
certain  
of less  
possibl  
For  
what i  
the Ye

truth in favour of the *Arians* ; and that the Fathers that follow'd him, were deceiv'd by his Testimony. But if we make use of the Rule already laid down, which is to consider what are the Circumstances both of the one and the other Baptism of *Constantine*, and which are those that carry the greatest Marks of Truth we shall find them to be the latter. For on the one side, there is no great reason to rely upon the Testimony of a Writer, so fabulous as the Author of the Acts of *Sylvester*, who is the only Person of Antiquity who has spoken of *Constantine's* being baptiz'd at *Rome*. And on the other side, there is no likelihood that a Person so serious and learned as *Eusebius* should presume to report an Untruth relating to a thing so remarkable. as the Baptism of the first Emperor that restor'd the Church to her liberty. and which must needs have been spread over all the World, at the same time that he wrote which was not above four or five years after the Death of the said Emperor.

Nevertheless- there is an Exception to this Rule, by which we ought to be satisfied with Possibility or Likelihood: That is, when an Action, which is otherwise sufficiently attested, is contradicted by Incongruities and apparent Contrarieties with other Histories.

For then it suffices, that the Solutions brought to enervate these Repugnances, be possible and probable; and it would be unreasonable to require other positive Proofs; for that the Fact it self being sufficiently prov'd, it is not equitable to require that we should prove all the Circumstances in the same manner. Otherwise we call in question a thousand most certain Histories, which we cannot agree with others of less Authority, but by Conjectures which it is impossible to prove positively.

For Example ; We cannot bring to an Agreement what is deliver'd in the *Kings* and *Chronicles* concerning the Years of the Reigns of several of the Kings of *Judah*

*dah* and *Israel*, but by assigning to some of the Kings two beginnings of their Reigns; the one during the Life of the reigning Prince, and the other after the decease of their Parents. Now if it be ask'd what Proof we have that such a Prince reigned some time with his Father, we must confess there is none positive. But it suffices that it is a thing possible, and which has often come to pass at other times, to make it lawful for us to suppose it, as a Circumstance necessary to reconcile Histories otherwise certain.

And therefore there is nothing more ridiculous than the Endeavours of some Hereticks of this latter Age, to prove that *St. Peter* never was at *Rome*. They cannot deny this Truth to be attested by all the Ecclesiastical Writers, and those the most ancient, as *Papias*, *Dionysius* of *Corinth* *Caius*, *Irenaeus*, *Tertullian*; against whom there is not any one that has made the least Contradiction.

Nevertheless, they imagine they can ruin this Truth by Conjectures: For example; because *St. Paul* makes no mention of *St. Peter* in his Epistles, written at *Rome*; and when they are answer'd, that *St. Peter* might then be absent from *Rome*, in regard he is not said to have fix'd his Seat there, as being one that often travell'd abroad to preach the Gospel in other places; they reply, that this is urg'd without any Proof; which is impertinent, because the Fact which they oppose being one of the most confirm'd Truths in Ecclesiastical History, it is incumbent on those that oppose it to shew that it contains any thing contrary to Scripture; and it is sufficient for those that uphold it, to resolve these pretended Contrarieties in the same manner as is done with those of the Scripture it self: for which, as we have shew'd, Possibility is sufficient.

An App

THE  
with  
regulat  
Facts.

we are  
rous E

For  
ence of  
Fancy  
should  
sued  
things  
told th

Oth  
Power  
Questi  
have b  
therefo  
than th

The  
than th  
the on

The  
on the  
unque  
of thol  
Blindr  
but w  
is very  
of a p  
that a



## CHAP. XIV.

*An Application of the preceding Rules to the Belief of Miracles.*

THE Rule which we have just now explain'd is without doubt of great Importance for the well regulating of our Reason in the belief of particular Facts. For want of the due Observation of which we are in great Danger of falling into the two dangerous Extremities of Credulity and Incredulity.

For Example, there are some who make a Conscience of questioning any Miracle, because they have a Fancy that they should be oblig'd to question all, should they question any; and for that they are persuaded that it is enough for them by knowing that all things are possible with God, to believe whatever is told them touching the Effects of his Omnipotency.

Others as ridiculously imagine that it is in the Power of the Understanding to call all Miracles in Question, for no other Reason but because so many have been related that have prov'd to be false; and therefore there is no more Reason to believe the one than the other.

The Inclination of the first is much more tolerable than that of the latter; though true it is that both the one and the other argue equally amiss.

They both depend upon common Places. The first on the Power and Goodness of God; on certain and unquestionable Miracles, which they bring for Proof of those that are called in Question; and upon the Blindness of the *Libertines*, who will believe nothing but what is proportionable to their Reason. All this is very good in it-self, but very weak to convince us of a particular Miracle. Nor is it an Argument that a Miracle was wrought, because others of the same

same Nature have been wrought. And we may do well to believe what is above our Reason, without being obliged to believe all that Men are pleas'd to obtrude upon us, as being above our Reason.

The latter makes use of common Places of another sort.

*Truth, says one of them, and Falshood appear with Countenances alike, the same Gate, the same Steps, we behold them with the same Eyes. I have seen the rise of several Miracles in my time; and tho' they vanish in the Birth, yet we cannot but foresee the Train they would have gathered, had they lived to their full Age. For it is but to find out the end of the Thread, and to cut it into as many Pieces as we please; and there is a greater distance between Nothing, and the smallest thing in the World, than there is between the smallest and the greatest. Now the first that are intoxicated with this beginning of Novelty, coming to spread their History, find by the Opposition which they meet with, where the Difficulty of Persuasion lodges, and make it their Business to slubber over that part of a false Piece. Particular Error first causes publick Mistake; and afterwards publick Mistake causes particular Error. Thus the whole Structure of the Miracle by some pull'd down, by others upheld to a considerable Pile. So that the most remote Witness is better instructed than he that lives close by; and the last that heard of it better confirm'd than the first Publisher.*

This Discourse is ingenious, and may be profitable to prevent us from being led away with every idle Report. But it would be an Extravagance from hence to conclude generally, that we ought to suspect whatever is said of Miracles. For certain it is, that what is here alledged relates only to those things which are taken up upon common Fame, without enquiring into the original Cause of the Report. And we have no Reason to be confident of what we know upon no better Grounds.

But

But w  
a comm  
upon as

For as  
but litt  
ginal:

Memori  
their Ju  
to inform  
ject onl  
those q  
that bel  
is a con  
whatev  
standin  
glest T  
spread  
hardly

Few  
pen'd  
Nun, s  
left in  
touchi  
Perfor

St.

wroug  
and w  
no far  
ther.  
Sermo  
And h  
God,  
Mirac  
Build  
besid  
comm  
true

But who's so blind as not to see, that we may make a common place opposite to this, and that at least upon as good a Foundation?

For as there are some Miracles that would deserve but little credit, should we enquire into their Original: So there are others, that vanish out of the Memories of Men, or which find but little credit in their Judgments, because they will not take the Pains to inform themselves. Our Understanding is not subject only to one sort of Distemper, but several, and those quite contrary. There is a sottish Stupidity, that believes all Things, the least probable. But there is a conceited Presumption, that condemns for false, whatever surpasses the narrow Limits of the Understanding. Sometimes we hunt after Trifles, and neglect Things of the greatest Moment. False Stories spread themselves every where, while true ones can hardly get liberty to creep abroad,

Few Persons have heard of the Miracle that happen'd in our Time at *Faramonstier*, in the Person of a Nun, so blind, that hardly the Balls of her Eyes were left in her Head; who recovered her Sight, by touching the Relicks of St. *Fara*, as I am assured by a Person that saw her in both Conditions.

St. *Austin* affirms, that many real Miracles were wrought in his Time, that were known but to few; and which the most remarkable and wonderful, spread no farther than from one end of the Town to the other. Which induced him to write, and relate in his Sermons to the People, such as were most certain. And he observes in the *twenty second Book of the City of God*, that in the single City of *Hippo*, near seventy Miracles were wrought, within two Years after the Building of a Chapel to the Honour of St. *Stephen*; besides a great Number of others, which he did not commit to Writing, which however he testifies to be true upon his Knowledge.

We

We therefore see, that there is nothing more irrational, than to guide our-selves by common Places upon these Occasions ; whether it be by rejecting all Miracles, or embracing all. And therefore we must examine them by their particular Circumstances, and by the Credit and Knowledge of their Reporters.

Piety does not oblige a Man of Sense to believe all the Miracles in the *Golden Legend*, or the *Metaphrast* ; in regard these Books are so full of Fables, that there is nothing to be credited upon their Authority, as Cardinal *Beilarmine* has made no scruple to confess of the last.

But I affirm that every Man of Sense, bating his Piety, ought to acknowledge for true the Miracles which *St. Austin*, relates in his *Confessions*, and his Book *De Civitate Dei* ; some of which he saw, and others of which he was inform'd by the Persons themselves, in whose sight they were wrought : As of a blind Man cur'd at *Milan* before all the People, by touching the Relicks of *St. Gervase* and *Protasius*, which he reports in his *Confessions*, and of which he speaks in the 22d Book *De Civitate Dei*. Chap 8. *A certain Miracle was wrought at Milan, when we were there, when a blind Man was restor'd to Sight, which could not be unknown to thousands for it is a large City, and the Emperor was then there ; and the thing was done before a vast Multitude of People crowding to the Bodies of the Martyrs St. Gervase and Protasius.*

Of a Woman cur'd in *Africa* by flowers which had touch'd the relicks of *St. Stephen*, as he testifies in the same Book.

Of a Lady of quality cur'd of the Canker by the Sign of the Cross, which she caus'd to be made upon the Sore by one that was newly baptiz'd, according to the Revelation which she had had.

Of a Child that died unbaptized, whose Restoration to Life the Mother obtain'd by her Prayers to *St. Peter* in the Strength of her Faith, invoking him in these Words : *Holy Martyr restore me my Son ; thou knowest I*

ask

ask his  
eternallNow  
pen'd  
son bu  
ger of  
would  
to beli  
ration  
WhichFirst  
Judgm  
public  
Falshe  
would  
tian RSecor  
a prof  
especia  
Work  
unlaw  
it is n  
Men tI ha  
Exam  
Truth  
occasi  
things  
the De  
for th  
not on  
proba  
Circu  
on ; a  
and co  
often  
bale  
taken



*ask his Life for no other Reason, but because he should not be eternally separated from God.*

Now if these things may be supposed to have happen'd as they are related, there is no rational Person but must acknowledge these things to be the Finger of God. So that all their Incredulity could do, would be to doubt of the Testimony of *St. Austin*, and to believe him a Falsifier of the Truth, to gain a Veneration of the Christian Religion among the *Pagans*: Which is that which they have no colour to imagine.

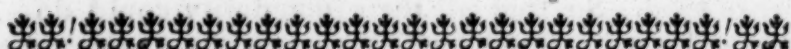
*First*, Because it is not likely that a Person of his Judgment would have told an Untruth in things so publick, wherein he might have been convinc'd of Falshood by infinite Number of Testimonies, which would have redounded to the Ignominy of the Christian Religion.

*Secondly*, Because there never was any Person more a profess'd Enemy of Falshood than this holy Man, especially in Matters of Religion, having made it the Work of entire Treatises to prove, that it is not only unlawful to tell a Lie, but a thing so detestable, that it is not to be made use of, tho' for the Conversion of Men to the Christian Faith.

I have the more enlarg'd upon this remarkable Example of the Judgment that is to be made in the Truth of Actions, to serve as a Rule upon the like occasions, because we most commonly deviate in those things. For every one thinks, that it is sufficient for the Decision of those to make a common Place, which for the most part is only compos'd of Maxims, which not only are not universally true, but not so much as probable, when they are join'd with the particular Circumstances of Actions that fall under Examination: and therefore Circumstances are to be compar'd and consider'd together, not consider'd apart. For it often happens, that a Fact, which is not very probable in one Circumstance, ought to be esteem'd and taken for certain according to other Circumstances:

And

And on the other side, a Fact which appears to us true, according to one Circumstance which is usually join'd with Truth, ought to be deem'd false, according to other weakening Circumstances, as we shall make out in the following Chapter.



## CHAP. XV.

*Other Remarks upon the same Subject of the Belief of Events.*

There is yet one other Remark of great moment to make upon the Belief of Events: Which is, that among those Circumstances which we ought to consider, that we may know whether Credit be to be given to the Fact or no; there are some which we may call *common Circumstances*, because they frequently occur, and are far oftner joined to Truth than Falshood: And then, if they be not counterbalanc'd by other particular Circumstances, that ruin the Motives of Belief drawn from common Circumstances, we have reason to believe those Events, if not to be certain, yet at least to be probable; which is sufficient, when we are oblig'd to pronounce our Opinion in such cases. For as we ought to be satisfied with a moral Assurance in things not capable of a metaphysical Certainty; so when we cannot obtain a full moral Assurance, the best we can do when we are to resolve, is to embrace the most probable; for it would be contrary to reason to embrace the least probable.

But if, on the other side, these common Circumstances, which would have induc'd us to believe a thing, be join'd with other particular Circumstances, that ruin the Motives of Belief drawn from common Circumstances, or be such as are rarely found without Fal-

Fal-

Falsh  
that  
the V  
Weig  
Actio  
are u

For  
Cont  
is, by  
is to  
not o  
Live  
alone  
of th  
is no  
becau  
nine  
nitel  
nine  
Cont  
grity  
shall  
in th

But  
by tu  
cum  
Conf  
strun  
make  
if be  
Ante  
ment  
thou  
strab  
then  
and i  
or be  
othe

Falshood, we are not then any longer to believe that Event. But either we remain in suspence, if the Weight of particular Circumstances enfeeble the Weight of common Circumstances ; or we believe the Action to be false, if the Circumstances are such as, are usually the Marks of Falshood.

For example, it is a common Circumstance for many Contracts to be sign'd by two publick Notaries ; that is, by two publick Persons, whose chiefest Interest it is to be just and true in their Employments, because not only their Conscience and Reputation, but their Lives and Estates lie at stake. This Consideration alone is sufficient, if we know no other Particularities of the Contract, to make us believe that the Contract is not antedated : Not but that it might be so ; but because it is certain, that of a thousand Contracts nine hundred ninety nine are not. So that it is infinitely more probable, that this Contract is one of the nine hundred ninety nine, than the only antedated Contract of a thousand. So that if withal the Integrity of the Notary that sign'd it be known to me, I shall most certainly believe that there is no foul Play in the Writing.

But if to this common Circumstance of being sign'd by two Notaries, there are join'd other particular Circumstances, as that the Notaries are Persons of no Conscience or Reputation, so that they might be instrumental in falsifying the Deed ; yet shall not this make me conclude, that the Deed is antedated. But if besides all these I can discover other Proofs of the Antedate, either by Witnesses, or convincing Arguments ; as the Inability of the Person to lend twenty thousand Crowns, at a time when it shall be demonstrable that he had not a hundred in Cash ; I will then resolve to believe the Contract to be falsified, and it were unreasonable for any Person to oblige me or believe otherwise ; and I should do ill to suspect others, where I did not however see the same Marks

of Falshood, not to be false, since they might be as well counterfeited as the other ?

We may apply all this to several Matters that cause frequent Disputes among the Learned. We demand if such a Book were written by such an Author, whose Name was always to it ? and whether the Acts of a Council are true or counterfeit ?

Certain it is, that we ought to give Sentence for the Author, whose Name, has been long acknowledg'd and affixed to the Work ; and for the Acts of a Council, which we read every day ; nor are we to believe the contrary but upon very strong Reasons.

Therefore a most learned Person of this Age being to prove, that the Epistle of St. *Cyprian* to Pope *Steven*, about *Martin* Bishop of *Arles*, was none of the Holy Martyr's ; he could not convince the Learned, his Conjectures not seeming sufficient to deprive St. *Cyprian* of a Piece, that had always carried his Name, and which has a perfect Resemblance of Syle with the rest of his Works.

In vain it is also that *Blondel* and *Salmasius*, not able to answer the Argument drawn from the Epistles of St. *Ignatius*, for the Superiority of Bishops over Priests, in the Infancy of the Church, pretend those Epistles to be counterfeit, even as they were printed by *Vossius* and *Usher*, from the antient Manuscript in the *Florentine* Library : Insomuch that they have been refuted by those of their own Party, for that confessing, as they do, that we have the same Epistles which were cited by *Eusebius*, St. *Jerom*, *Theodoret*, and *Origen* himself there is no likelihood that the Epistles of St. *Ignatius*, being collected by *Polycarp*, those true Epistles, shou'd have disappear'd, and others be counterfeited in the Time between *Polycarp* and *Origen*, or *Eusebius*. Besides, that those Epistles of St. *Ignatius*, which we have now, wear such a Character of the Holiness and Simplicity, so proper to the Apostolic Times, that they

justify



justify themselves against the vain Accusation of being false and counterfeit,

*Lastly*, All the Difficulties that Cardinal *Perron* proposes against the Epistles of the Council of *Africk* to Pope *Celestin*, touching Appeals to the See, cannot prevail with us to believe otherwise now than before, but that those Epistles were really written by the Council.

But it happens sometimes that particular Circumstances carry more weight in Persuasion, than long Possession.

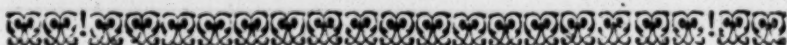
So that altho' the Epistle of St. *Clement* to St. *James*, Bishop of *Jerusalem*, be translated by *Ruffinus* near thirteen hundred Years ago, yet we can hardly believe it otherwise than counterfeit; in regard that St. *James*, Bishop of *Jerusalem*, having suffered Martyrdom before St. *Peter*, it is impossible that St. *Clement* should write after the Death of St. *Peter*, as the Epistle, supposes.

Thus tho' the Commentaries upon St. *Paul* are attributed to St. *Ambrose*, and cited under his Name by a great number of Authors, together with that imperfect Work upon St. *Matthew*, under the Name of *Chrysostom*; all Men however at this Day agree, that they belong to neither, but to other antient Authors full of many Errors.

*Lastly*, The Acts of the two *Sinuessan* Councils under *Marcellin*, and two or three at *Rome* under *Sylvester*, and another at *Rome* under *Sixus* the II d, might be sufficient to persuade us of the Verity of those Councils, if they contain'd nothing but what were congruous to Reason, and which might be proper for the Times, wherein they are said to be celebrated; but they contain so many Absurdities, so disagreeable from those Times, that there is a great likelihood of their being false and counterfeit.

And these are the Remarks which may serve for these sort of Judgments: But we must not imagine them to be of such great use, as always to free us from the Danger of being deceiv'd. All that they can

do at most, is to guard us from the more gross and apparent Absurdities, and to inure us not to be carry'd astray by common Places, which containing something of general Truth, cease not however to be false upon many particular Occasions, which is one of the chiefest Sources of humane Error.



## CHAP. XVI.

*Of the Judgments we ought to make of future Accidents.*

THESE Rules, that serve us to judge of things past, may be apply'd to things to come. For as we probably judge a thing to have come to pass, when the Circumstances which we know are usually join'd with that Fact; we may as probably believe that such a thing will happen, when the present Circumstances are such as are usually attended by such an Effect. Thus the Physicians judge of the good or bad Success of Diseases, Captains of the future Events of War, and we judge in the World of the most part of contingent Affairs.

But as to those Accidents, wherein we are Actors our selves, and which we might either promote or prevent by our Care and Foresight, in avoiding or exposing out selves to them; it happens that most Persons fall into many Errors, so much the more grievous, by how much they seem to be guarded by Reason; because they only set before their Eyes the Greatness and Consequence of the Advantage which they wish for, or the Mischiefs that they fear, not considering the Likelihood and Probability that this Advantage or Inconvenience may happen, or not happen.

In like manner, when it is any great Misfortune which they fear, as loss of Life or Estate, they think it

it Prudence not to neglect any care to prevent it. Or if it be any great Advantage which they expect, as the gain of a hundred thousand Crowns, they think they act wisely to endeavour the gaining of it if the Venture cost but little, let the Probability of Success be never so small.

By such a Ratiocination as this it was, that a Princess hearing that some Persons had been overwhelm'd by the fall of a Roof would never go into a House till she had all the Roofs first view'd; and she was so fully persuaded that she had Reason for so doing, that she accounted all others imprudent, that did not as she did.

'Tis also this appearance of Reason that engages several Persons into inconvenient and excessive Cautions, for the Preservation of their Health. This is that which renders others excessively distrustful even in little things; for that having been sometimes deceiv'd, they believe they shall be deceiv'd in all their other Business. This is that which inveigles so many People to Lotteries; to gain, cry they, Twenty thousand Crowns for one Crown, is not that a very great Advantage; and every one believes himself shall be that happy Person upon whom this great Fortune shall shower it self; never considering that though the Lots promise twenty thousand for one, 'tis thirty times more probable to every particular Person, that he shall be a looser than a Winner.

And this is the Defect of this Ratiocination; for that we may judge what is fit to be done to obtain the Good, and avoid the Evil, we ought not only to consider the Good and Evil in its self; but also the Probability whether it may happen, or no; and Geometrically to consider the Proportion which the thing holds together; which may be demonstrated by this Example.

Ten Men at Play, stake every one a Crown; there is but one can win the whole Stake, all the rest are

**Losers.** So that every one has two Chances, either to lose one Crown, or win nine. Now if we should consider only the gain and the Loss in themselves, it might seem that all had an equal advantage : But we are to consider moreover, that if every one may win nine Crowns, and can only lose one, it is also nine times more probable in respect of every one, that he shall lose his own than win the nine ; while every Man has nine Degrees of probability to lose one Crown, and but one degree of probability to gain nine ; which equals the Hopes and Fear of gain and Loss.

All Plays of this nature are as equitable as Plays can be ; but all that are not under this Equality of Lots are unjust. And hence it is that it may be plainly made out, that there is an evident Injustice in all sorts of Lotteries ; for the Master of the Lottery usually claiming the tenth Part of the whole Fund for his own share, the whole Crowd of those that play is cheated ; in the same manner as if a Man playing at a Game wherein there was as much likelihood of winning as losing, should play nine Pistoles to one : Now if this be disadvantageous to the whole Crowd, it must be also the same to every particular Person, because the Probability of losing far more surpasses the Probability of gaining, than the Advantage we hope for does the Disadvantage of losing.

Sometimes there is so little likelihood in the Success of a thing, that how advantageous soever it be and how small soever the hazard of winning, it is better not to hazard. Thus it would be a foolish thing to play twenty *Sols* against ten millions of Livres, or against a Kingdom ; or upon condition he should not win, unless such an Infant taking out the Letters out of a Printer's Case by accident, did also of a sudden compose the first twenty Verses of *Virgil's Æneids* : For indeed there are few moments scape us, wherein we do not run the risk of losing more than a King  
that

that

Th  
indee  
in ma  
use w  
in ou  
Perfo  
thund  
Sky,  
well ;  
ses th  
ly app  
lions,  
and  
Death  
chief  
Grea  
of its  
ly be  
the lo  
way a

He  
decei  
season  
Heal  
cautio  
so ren  
so to  
other  
fore i  
there  
those  
but b

It  
they  
tiplie  
more  
vent,



that should stake his Kingdom to such a Condition.

These Reflections seem of little value, and are so indeed if we stop here; but we may make use of them in matters of greater Importance: And the chiefest use we can make of them, is to render us more rational in our Hopes and Fears. For Example, there are some Persons that are in a panic Dread when they hear it thunder; which Clatter, and Hurly Burly in the Sky, if it put them in mind of God and Death, 'tis well; but if only the fear of being thunderstruck causes this extraordinary Apprehension, then it will easily appear how little Reason they have; for of two millions, if one be kill'd in that manner, 'tis very much; and we may also aver, that there is no sort of violent Death happens so rarely. Since then the fear of Mischief, ought to be proportionable not only to the Greatness of the Mischief, but also to the Probability of its Event, as there is no sort of Danger that so rarely befalls us as to be kill'd by Thunder, so have we the least Reason to fear it; since the Fear will no way avail us to avoid it.

Hence Arguments may be produc'd not only to undeceive such People as are so over morosely and unseasonably cautious in the Preservation of their Healths and Lives, by shewing them that those Precautions are much more mischievous than the Danger, so remote from the Accident which they fear; but also to disabuse another sort that always argue thus in other Affairs: There is Danger in this Business, therefore it is bad; there is Advantage in that Business, therefore it is good; in regard we are not to judge of those things either by the Danger or the Advantage, but by their Proportion one with another.

It is the nature of things finite, how bulky soever they be, to be exceeded by the least of things if multiplied often enough; or if the little things are far more superior to the great ones in probability of Event, than they are inferior to them in Bigness.

Thus the smallest Gain may exceed the greatest that can be imagin'd, if that small Gain be often reiterated; or if this great Gain be so difficult to be obtain'd that it does not surpass the little one more in Magnitude, than the little one surpasses the greater in Facility of being obtain'd. The same is to be said of those Mischiefs which we fear; that is, the least Evil may be more considerable than the greatest Evil, which is not infinite, if it surpasses it according to such a Proportion.

There are nothing but infinite things, namely Eternity and Salvation, that cannot be equall'd by any temporal Advantage; and therefore they are never to be put in the Scale against any of the things of this World. The least degree of Facility for a Man to save himself, is worth all the Felicities of the World join'd together; and the least Danger of being damn'd is more considerable than all temporal Mischiefs, if only look'd upon as Misfortunes.

And it may be sufficient for all rational Persons to draw from what has been said, this Conclusion, with which we will end our Logic: *That the greatest of all Imprudence, and the highest of all Madness, is this, to spend our Lives and our Time in any thing else than in what may be serviceable to acquire us a Life that shall never have an end; since the Good and Evil of this Life is nothing, if compar'd to the Felicity and Sufferings of the other; and the Danger of falling into the one, is as great as the Difficulty of acquiring the other*

They who draw this Conclusion, and follow it in the Conduct of their Lives, are prudent and wise, let them be ever so unlearned in Arguments concerning the Sciences. Whereas they who neglect it, though never so learned in other things, are call'd in Scripture Fools and Madmen, and make but an ill use of Logic, their Reason, or their Lives.



BOOKS Printed for W. TAYLOR, at  
the Ship and Black-Swan in Pater-Noster-  
Row.

A Critical History of the Establishment of the Britains among the *Gauls* and, of their Dependance upon the King's of *France* and Dukes of *Normandy*. By *Monsieur the Abbot of Vertot*; of the Academy Royal of Inscriptions: And *Belles Letters* in 2 Vol. 8vo.

The present State of *Russia*, in two Vol. Being an Account of the Government of that Country, both Civil and Ecclesiastical: Of the *Czar's* Forces by Sea and Land; the Regulation of his Finances; the several Methods he made Use of to civilize his People, and improve the Country; his Transactions with several Eastern Princes, and what happen'd most remarkable at his Court; particularly, in Relation to the late *Czarewitz*, from the Year 1714. to 1720, &c.

The History of the Antient Abbey's, Monasteries, Hospitals, Cathedrals; and Collegiate Churches; being two additional Volumes to Sir *William Dugdales Monasticon Anglicanum*. 8vo.

The History of the Grecian War in Eight Books. Written by *Thucydides*, faithfully Translated from the Original. By *Thomas Hobbes* of *Malmsbury*; with Mapps describing the Country. in 2 Vol. 8vo.

The Construction and principal Uses of Mathematical Instruments: Translated from the French of *M. Bion* chief Instrument Maker to the French King; to which are added the Construction and Uses of such Instruments as are omitted by *M. Bion*; particularly, of those invented by the *English*. By *Edmund Stone*. In Folio.

The present State of Great Britain and Ireland in three Parts: The First of South; the Second of North Brittain; the Third of Ireland; containing an Accurate and Impartial Account of these Famous Islands, of their several Counties and Inhabitants, the Advantages and Disadvantages of both in respect to Foreign Countries; and their Curiosities of Nature and Art; of the vast Populous and opulent City.

# BOOKS Printed for W. TAYLOR.

City of *London*, the Metropolis of *England*; and of the two Celebrated Universities *Oxford* and *Cambridge*: Of the *Britians* Original Language, Temper, Genius, Morals, Trade &c. their Nobility, Gentry, Clergy and Commonality; their Laws and Government, and a Succinct History of all the English Monarchs to this Time; with Lists of the present Officers in Church and State, and of both Houses of Parliament: Also the present State of his Majesties Dominions in *Germany*.

The History of the Revolutions, that happen'd in the Government of the Roman Republick, written in French by the Abbot *de Vertot* of the Royal Academy of Inscriptions. &c. English'd by Mr. *Ogell* from the Original; new-Printed, at *Paris*; with Amendments and Additions, by the Author himself, in almost every Page. In 2 Vol. 8v.

*Medulla Hist. Anglicana*, the Ancient and present State of *England*; being a Compendious History of all its Monarchs, from the time of *Julus Cæsar*. Written by Dr. *Hewel*; and continued by an Impartial Hand to the Death of her late Majesty Queen *Anne*. 8v.

*Botanicum Officinale*, or a Compendious Herbal, giving an Account of all such Plants as are now used in the Practice of Physick; with their Descriptions and Virtues. By *Joseph Miller*. In 8v.

Memoirs of a Cavalier: Or, a Military Journal of the Wars in *Germany*, and the Wars in *England* from the Year 1632, to the Year 1648. Written Threescore Years ago, by an English Gentleman who serv'd first in the Army of *Gustavus Adolphus* the Glorious King of *Sweden*, till his Death; and after that in the Royal Army of King *Charles* the First; from the beginning of the Rebellion to the end of that War. In 8v.

The Historical Library of *Diodorus the Sicilian*, in fifteen Books; Containing the Antiquities of *Egypt*, *Asia*, *Africa*, *Græce*, the Islands and *Europe*. Also an Historical account of the Affairs of the *Persians*, *Græcians*, *Macedonians* and other Part of the World. To which are added, the Fragments of *Diodorus* that are found in the *Bibliotheca* of *Photius*; together with those Published by *H. Valesius Rhodomanus*, and *F. Verisus*. Made English by *G. Booth* Esq; in Fol.

The Farriers New Guide: Containing, First, The Anatomy of a Horse, being an exact and Compendious Description

tion  
ed w  
condly  
their  
Defe  
their  
prov  
The  
serva  
Gibb  
T  
I. A  
Ufe  
Man  
II. T  
Mine  
both  
ber o  
of all  
est  
most  
of P  
prop  
many  
ing t  
comp  
whet  
ing t  
Auth  
M  
ed by  
ten's  
Grav  
Math  
Lond  
D. F  
dois.  
Ph  
Cont  
touch  
of Bo  
fore c  
schin



## BOOKS Printed for W. TAYLOR.

tion of all his parts ; with their Actions and Uses, illustrated with Figures curiously engraven on Copper-plates. Secondly, an Account of all Diseases incident to *Horses*, with their *Sign*, *Causes*, and *Methods of Cure* ; wherein many Defects in the Farriers Practice are now carefully supplied their Errors exposed and amended, and the Art greatly improved and advanced, according to the latest Discoveries. The whole interspers'd, with many curious and useful Observations concerning *Feeding* and *Exercise*, &c. by W. Gibson. 8vo.

The Farriers Dispensatory : In three Parts, containing, I. A Description of the medicinal Simples, commonly made Use of in the Diseases of *Horses*, with their Virtues, and Manner of Operation, distributed into proper Classes, &c. II. The Preparations of Simples, *Vegetable*, *Animal*, and *Mineral* ; with an Explanation of the most usual Terms both in the *Chymical* and *Galenical Pharmacy* III. A Number of useful Compositions and Receipts, suited to the Cure of all Diseases, never before published ; as also those of greatest Account from *Solleysel*, *Ruene*, *Blundevill*, and other most celebrated Authors, digested under their proper Heads of *Powders*, *Balls*, *Drinks*, *Ointments*, *Charges*, &c. The proper Method of compounding and making them. With many other useful Observations and Improvements, tending to their right Administration to which is also added A complete Index of all the *Medicines* contained in the Book, whether *Simple* or *Compound*, with a Table of Diseases pointing to the Remedies proper in each Malady. By the same Author. 8vo.

Mathematical Elements of Natural Philosophy confirmed by Experiments, or an Introduction to Sir *Isaac Newton's* Philosophy. Written in *Latine* by *William-James's Gravesande*, Doctor of Laws and Philosophy, Professor of Mathematicks and Astronomy at *Leyden*, and F. R. S. of *London*. Translated into *English* by *J. T. Desaguliers*, LL D. F. R. S. and Chaplain to his Grace the Duke of *Chandos*. 8vo.

Physico Mechanical Experiments on various Subjects. Containing an account of several surprizing Phenomena touching Light and Electricity, producible on the Attrition of Bodies. With many other remarkable Appearances, not before observ'd. Together with the Explanations of all the Machines, (the Figures of which are curiously engrav'd on Copper

## BOOKS Printed for W. TAYLOR

per) and other Apparatus us'd in making the Experiments. To which is added a Supplement containing several New Experiments not in the former Edition. The *Second Edition*. By *F. Hawksbee*, F. R. S. 8vo.

A Treatise of the Motion of Water, and other Fluids; with the Origin of Fountains and Springs, and the Cause of Winds. In which Treatise, the Manner of Levelling and conducting Rivers, in Order to make them Navigable; the making of Aqueducts for the Supply of Gentlemens Seats; the whole Art of contriving and making Jetts of Water for Fountains; and the Manner how to proportion the Strength of Pipes for conveying Water from any Height are plainly demonstrated from the Laws of *Hydrostaticks*, by above 100 curious Experiments. Written originally in *French*, by the Learned *M. Mariotte*, Member of the *Ryal Academy* at *Paris*. And translated into *English*, with several Annotations for Explaining the doubtful Places. By *J. T. Desaguliers*, LL. D. F. R. S. Chaplain to his Grace the Duke of *Chandis*. 8vo.

*Trigonometry Improv'd*, and the Projection of the Sphere, made easy. Teaching the Projection of the Sphere Orthographick, and Stereographick: As also, Trigonometry Plain and Spherical; with plain and intelligible Reasons for the various and most useful Methods both in Projection and Calculation; with the Application of the whole to Astronomy, Dialling, and Geography. By *H. Wilfon*. 12mo.

The *London Accomptant*: Or, Arithmetick in all its Parts. *Viz.* in whole Nummers and Fractions, Vulgar and Decimal, with the Extraction of the Square and Cube Root, not only taught, but the Reasons of Operations demonstrated, and made intelligible to all Capacities. By the same Author. 12mo.

*Geodesia*; or the Art of Surveying and Measuring of Land made easie. Shewing, by plain and practical Rules, how to Survey, Protract, Cast up, reduce or divide any Piece of Land whatsoever; with new Tables for the ease of the Surveyor in reducing the Measures of Land. Moreover, a more facile and sure way of Surveying by the Chain, than has hitherto been taught. As also how to lay out new Lands in *America* or else-where: To make a perfect Map of a River's Mouth or Harbour; and several other things never yet publish'd in our Language, by *John Love*. The third Edition, with Additions. 8vo.



ts.  
ew  
di-

ds;  
use  
ing  
ble;  
ens  
s of  
ion  
ght  
by  
in  
yal  
eve-  
By  
race

ere,  
Or-  
etry  
s for  
tion  
e to  
2mo.  
l its  
and  
Cube  
s de-  
y the

g of  
ules,  
any  
e ease  
More-  
the  
o lay  
per-  
other  
Love.